
Texas Vegetation Classification Project: Interpretive Booklet for Phase II

Texas Parks and Wildlife
Department and Texas
Natural Resources
Information System

Contacts: Kim Ludeke, Duane
German, and Jim Scott

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Introduction

The Texas Parks and Wildlife Department is mapping the existing vegetation of Texas at fine spatial and thematic resolution (more mapped vegetation types) over the course of five years (Figure 1). Phase 1 of the project, covering central and north central Texas, is complete. The following document accompanies Phase 2, east Texas.

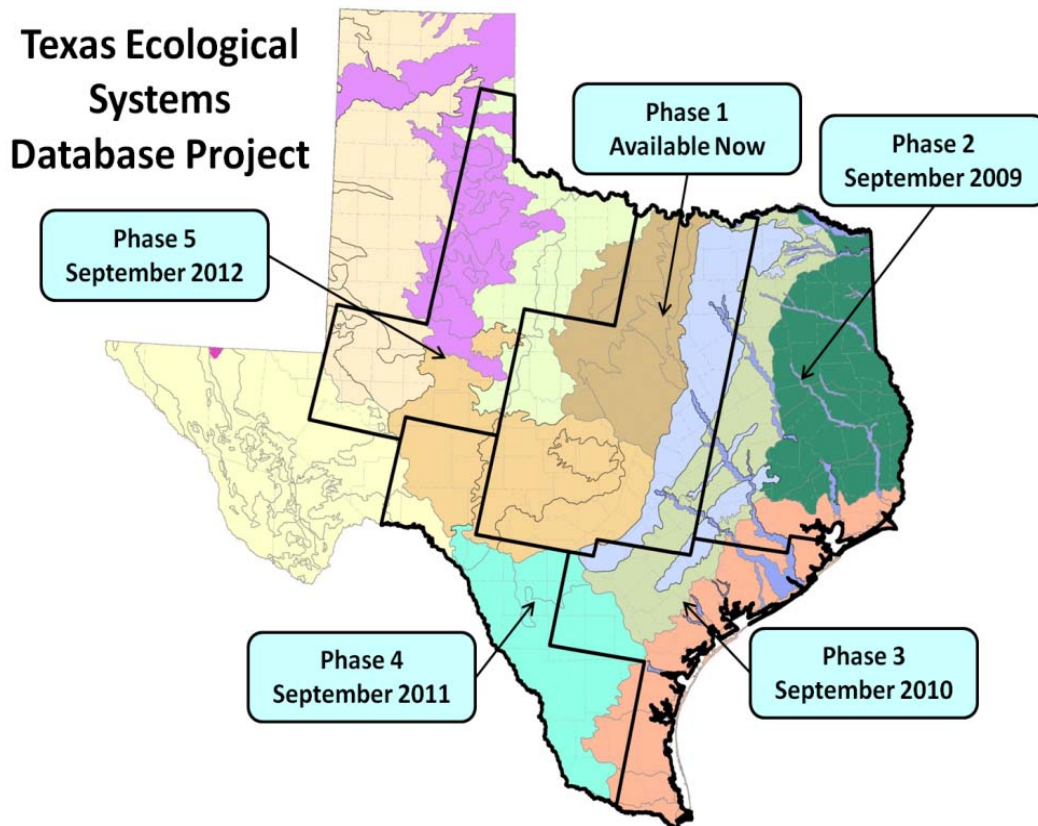


Figure 1. Texas Vegetation Classification Project Schedule

The general procedure used to classify and map existing vegetation includes (1) mapping land cover from 30 m resolution satellite imagery, (2) developing image objects from air photos to improve spatial resolution to 10 m, and (3) modeling existing vegetation using information developed from digital county soil surveys and variables developed from digital elevation models. Detailed methods are contained in the Phase 1 interpretative booklet, available on the Texas Parks and Wildlife public web site.

In Phase 2, we used remote sensing results to identify seasonally flooded bottomlands, which was not done in Phase 1. We also used land position, calculated as a weighted average within a circle of 100 meters radius, to help define high and low land positions. The high land positions were used to define ridges and hill tops that generally support drier woodlands and forests in the Pineywoods. The low land positions were buffered (expanded) by 20 meters. These buffered low land positions were merged with areas having slope >20%, when they were in contact, to define narrow valleys and ravines. The ravines were in turn used to help define mesic forest types.

The primary sources of mapping errors include limitations in the accuracy of the supervised satellite remote sensing classification of land cover and limitations in the way soils are mapped. Soil map units are often not mapped consistently across county lines, and may circumscribe a good deal of variation in soil properties (e.g. depth, texture). Remote sensing results generally cannot discern variation in vegetation quality or successional state beyond physiognomy (e.g. grassland, shrubland, forest) and life form (e.g. evergreen, mixed, deciduous). For example, the grassland land cover class includes natural and cultural grasslands in many states as well as sparse shrublands. The shrubland class may represent relatively natural shrublands or young or sparse successional shrublands or woodlands, and may be relatively wet or dry. In addition, remote sensing classification is a rather blunt instrument in terms of discerning minor variation in vegetation character, and thus grasslands and shrublands are often confused, open woodlands maybe incorrectly pooled with shrublands, etc. More uncommon types, for example, broadleaf evergreen forests and woodlands in Phase 2, are often confused with more common types. Given this type of variation superimposed on irregularities in soil and site type mapping, classification is sometimes problematic, and this lack of certainty is reflected in the following descriptions of mapped vegetation types.

Based on 1,130 field-collected data points where workers were highly or very highly confident in the classification of existing vegetation, the mapped vegetation types are 78% accurate at the ecological system level of resolution (see accompanying appendix for conceptual descriptions). The accuracy was 67% at the finest level of resolution (mapped vegetation type). However, the field-collected points did not include many samples of easy to classify types such as water and urban, which would tend to increase the overall map accuracy. The map accuracy is excellent for a product of this type where the number of types mapped is large (>110 versus <25 for a typical product) and the classification covers a large area at fine resolution.

Mapped Vegetation Type Descriptions and Ecological Interpretations

The brief descriptions of existing vegetation types that follow help the user understand the type and amount of variation that might be circumscribed within a given mapped

type. We sometimes refer to methods used in modeling and mapping in order to help the user better understand the concepts used to define a type. Photographs were taken at every ground verification point, and we selected from those to provide the illustrations. Even though we collected and/or accessed more than 6,000 ground verification points, including more than 4,000 subplot data points graciously provided by the US Forest Service (Forest Inventory and Analysis), some of the uncommon mapped vegetation types were not sampled, and their general character was inferred from field experience. Figure 2 shows a conceptual profile of landforms and soils on which different plant communities may develop. Modeling and mapping results flow from the line of thought that asserts different types of plant communities prevail on different landforms and soils.

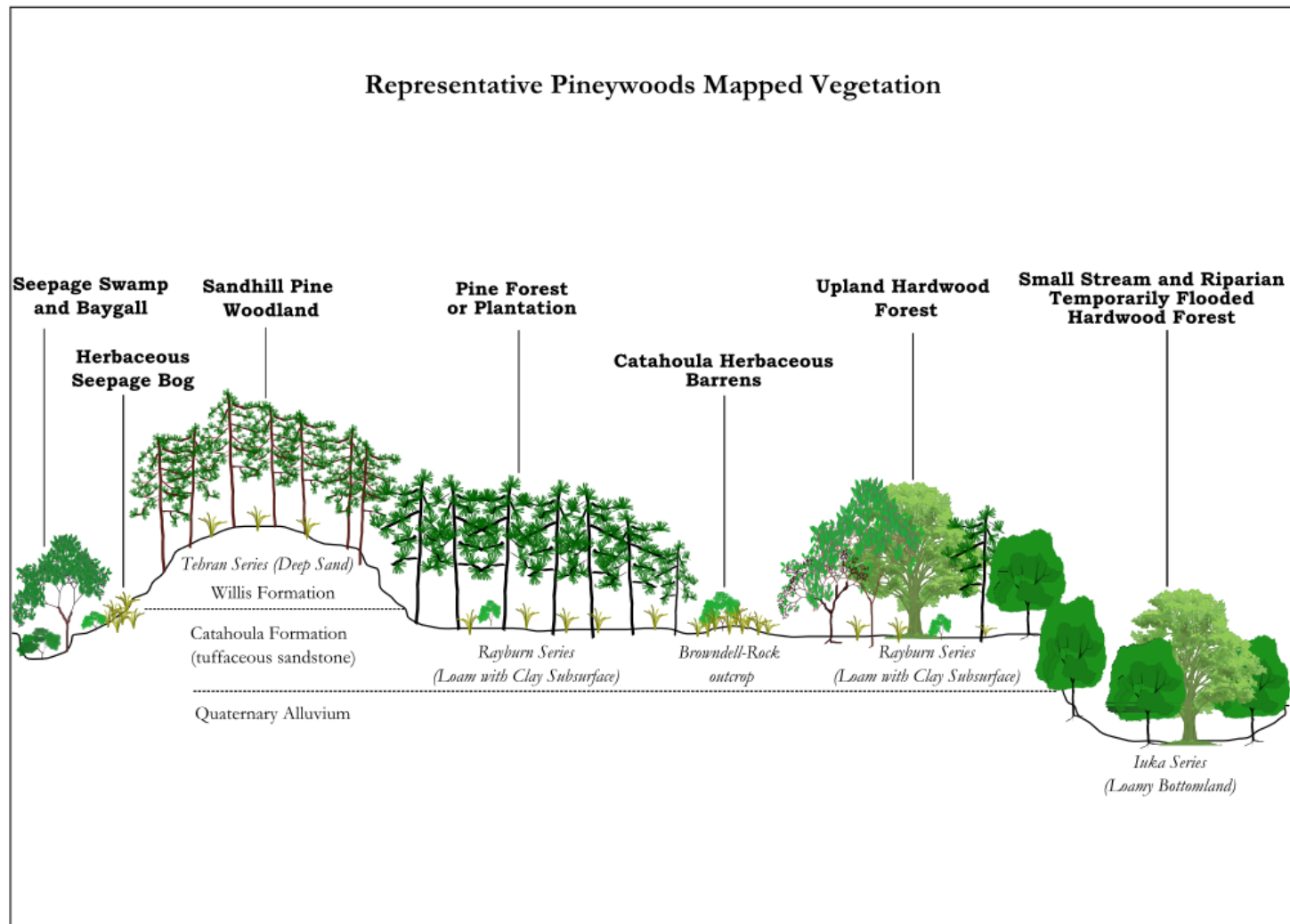


Figure 2. Profile of representative mapped vegetation in the Pineywoods in the vicinity of the Catahoula Formation. Note that two different vegetation types are depicted on the Rayburn soil series, resulting from differing landuse history. Additional conceptual vegetation profiles can be found in the U.S. Forest Service publication, *Ecological Classification System for the National Forests and Adjacent Areas of the West Gulf Coastal Plain: 2nd Approximation* by J.E. Van Kley, R.L. Turner, L.S. Smith and R. E. Evans.

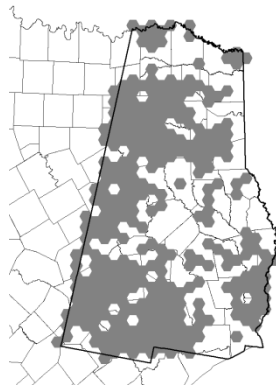
Barren

Area in Phase 2: 67,739 acres (27,414 ha)

Description of Mapped Type: This type includes areas where little or no vegetation cover existed at the time of image data collection. Large areas cleared for development are included, as well as rural roads and buildings and associated clearings in primarily rural areas. Stream beds with exposed gravel or bedrock, rock outcrops, quarries, mines, and year-round fallow fields are also included.

Where to Visit:

None



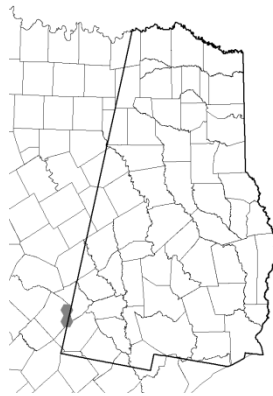
Bastrop Lost Pines: Loblolly Pine / Oak Forest

Area in Phase 2: 3,776 acres (1,528 ha)

Description of Mapped Type: Loblolly pine, post oak, blackjack oak, cedar elm, and sugar hackberry are common canopy trees, and eastern redcedar may be among the dominants in some areas. Farkleberry is often in the understory.

Where to Visit:

Buescher State Park: Texas Parks and Wildlife Department



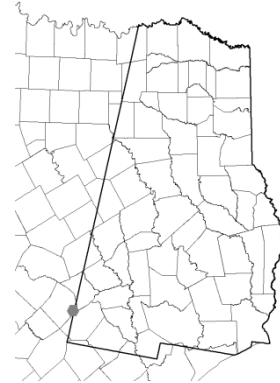
Bastrop Lost Pines: Loblolly Pine / Oak Slope Forest

Area in Phase 2: 7 acres (2.8 ha)

Description of Mapped Type: Loblolly pine and post oak are often important in the canopy, and blackjack oak, black hickory, cedar elm, and sugar hackberry may be important. Eastern redcedar is an important component in some areas.

Where to Visit:

None



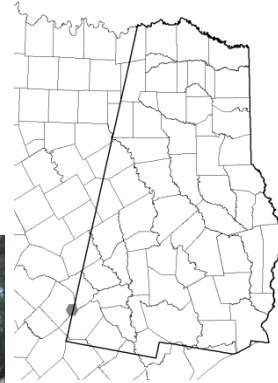
Bastrop Lost Pines: Loblolly Pine Forest

Area in Phase 2: 2,468 acres (999 ha)

Description of Mapped Type: Loblolly pine is the primary overstory dominant, and post oak and blackjack oak may be components of the canopy. Farkleberry is often in the understory. Some areas may be dominated by eastern redcedar.

Where to Visit:

Buescher State Park: Texas Parks and Wildlife Department



Blackland Prairie: Disturbance or Tame Grassland

Area in Phase 2: 1,852,426 acres (749,677 ha)

Description of Mapped Type: This type includes grasslands in many conditions, and introduced Bermudagrass and King Ranch bluestem are often important components. Little bluestem, silver bluestem, broomsedge bluestem, threeawns, common broomweed, western ragweed, and hog croton are common components. Shrubs or sparse tree cover including plateau live oak, post oak, eastern redcedar, mesquite, huisache, yaupon, and winged elm may also be present.

Where to Visit:

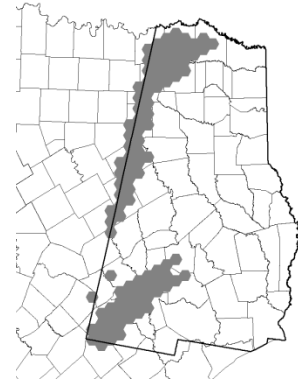
Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Clymer Meadow Preserve: The Nature Conservancy

Cooper Wildlife Management Area: Texas Parks and Wildlife Department

Jim Chapman Lake/Cooper Dam: US Army Corps of Engineers

Lake Tawakoni State Park: Texas Parks and Wildlife Department



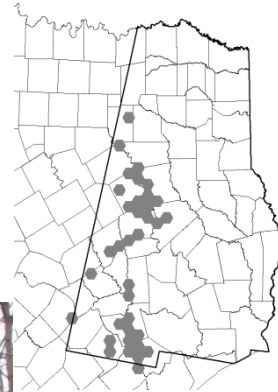
Central Texas: Floodplain Baldcypress Swamp

Area in Phase 2: 997 acres (403 ha)

Description of Mapped Type: Baldcypress and shrubs such as common buttonbush and water elm are common dominants of this type. Slightly drier areas may support overstory trees such as water oak, green ash, overcup oak, willow oak, pecan, and sweetgum.

Where to Visit:

None



Central Texas: Floodplain Deciduous Shrubland

Area in Phase 2: 42,368 acres (17,146 ha)

Description of Mapped Type: A variety of generally successional shrublands dominated by deciduous species such as possumhaw, black willow, roughleaf dogwood, or common buttonbush may be mapped in this type. Young trees such as green ash, cedar elm, winged elm, western soapberry, honeylocust, and sugar hackberry may also be important.

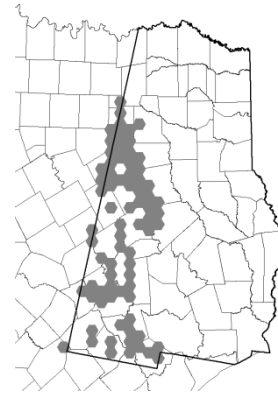
Where to Visit:

Big Lake Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Richland Creek Wildlife Management Area: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers

Somerville Lake Reservoir: US Army Corps of Engineers



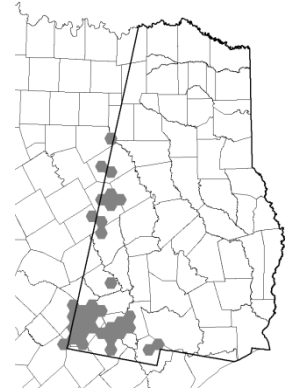
Central Texas: Floodplain Evergreen Forest

Area in Phase 2: 922 acres (373 ha)

Description of Mapped Type: Loblolly pine generally dominates this type in the southern portion of the region, whereas eastern redcedar is dominant in the central and north. Important trees may include sugar hackberry, American elm, cedar elm, and plateau live oak (south).

Where to Visit:

None



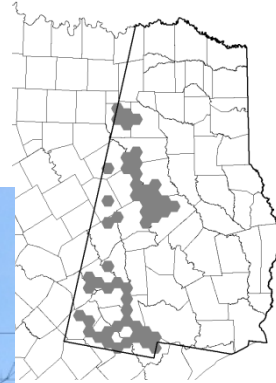
Central Texas: Floodplain Evergreen Shrubland

Area in Phase 2: 1,590 acres (643 ha)

Description of Mapped Type: Successional or disturbance shrublands and sparse woodlands with eastern redcedar characterize this type. Yaupon may also be important, and young pine plantations may occur in the south. Mesquite, sugar hackberry, cedar elm, winged elm, and plateau live oak (south) may be components.

Where to Visit:

None



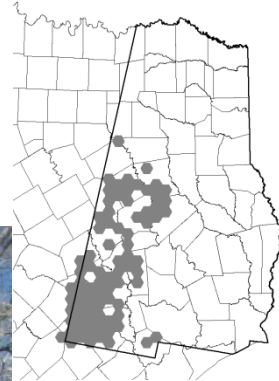
Central Texas: Floodplain Hardwood / Evergreen Forest

Area in Phase 2: 8,464 acres (3,425 ha)

Description of Mapped Type: Deciduous trees such as pecan, cedar elm, sugar hackberry, water oak, green ash, black walnut, and American elm commonly share dominance with evergreens such as eastern redcedar and plateau live oak in this mapped type. Loblolly pine may also be important in the south.

Where to Visit:

Somerville Lake Recreation Area: US Army Corps of Engineers



Central Texas: Floodplain Hardwood Forest

Area in Phase 2: 704,213 acres (284,995 ha)

Description of Mapped Type: Deciduous trees such as pecan, post oak, white ash, green ash, water oak, cedar elm, American elm, sugar hackberry, sweetgum (east) and willows are commonly encountered overstory trees in this type.

Where to Visit:

Big Lake Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Fort Boggy State Park: Texas Parks and Wildlife Department

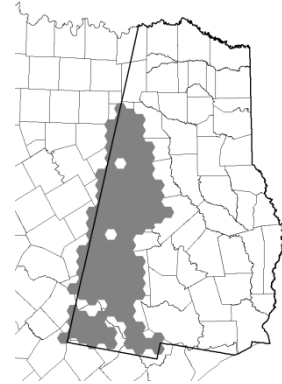
Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department

Keechi Creek Wildlife Management Area: Texas Parks and Wildlife Department

Richland Creek Wildlife Management Area: Texas Parks and Wildlife Department

Stephen F. Austin State Park: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers



Central Texas: Floodplain Herbaceous Vegetation

Area in Phase 2: 626,459 acres (253,528 ha)

Description of Mapped Type: A variety of generally tame or successional grasslands and forblands are mapped in this type, with Bermudagrass, Johnsongrass, and Bahia grass all common. Successional forbs such as hog croton and giant ragweed are also common. Sparse tree cover including black willow, American elm, water oak, green ash, and live oak may occur and yaupon and eastern redcedar are common shrubs.

Where to Visit:

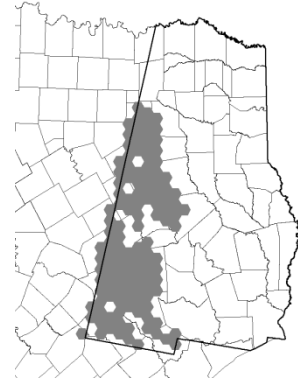
Attwater Prairie Chicken National Wildlife Refuge: US Fish and Wildlife Service

Big Lake Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Richland Creek Wildlife Management Area: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers

Somerville Lake Reservoir: US Army Corps of Engineers



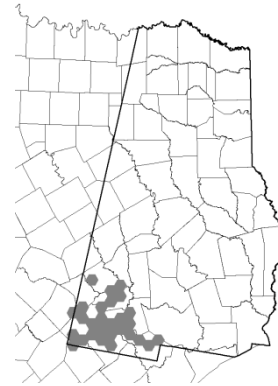
Central Texas: Floodplain Live Oak Forest

Area in Phase 2: 1,333 acres (540 ha)

Description of Mapped Type: This forest contains live oak in the canopy. Deciduous species such as cedar elm, sugar hackberry, pecan, and American elm may be present. Eastern redcedar may also be present in some areas.

Where to Visit:

None



Central Texas: Floodplain Seasonally Flooded Hardwood Forest

Area in Phase 2: 22,111 acres (8,948 ha)

Description of Mapped Type: Water oak, American elm, pecan, green ash, willow oak (east), overcup oak (east) and sweetgum are common canopy dominants of this type. River birch, water honeylocust (southeast), and common buttonbush are common species in wetter areas, and overcup oak may be an important tree component in the east.

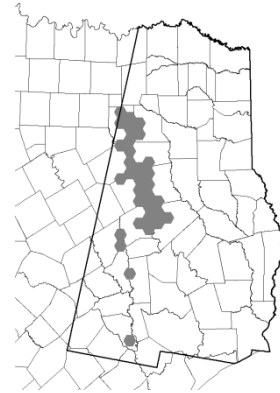
Where to Visit:

Big Lake Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department

Keechi Creek Wildlife Management Area: Texas Parks and Wildlife Department

Richland Creek Wildlife Management Area: Texas Parks and Wildlife Department



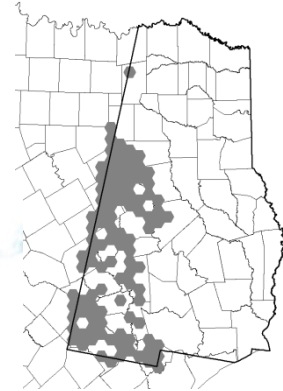
Central Texas: Riparian Deciduous Shrubland

Area in Phase 2: 1,590 acres (643 ha)

Description of Mapped Type: This mapped type is usually represented by successional shrublands or young forests dominated by small deciduous trees or shrubs such as black willow, cedar elm, winged elm, sugar hackberry, green ash, possumhaw, or mesquite (west), or by common buttonbush on wetter sites.

Where to Visit:

None



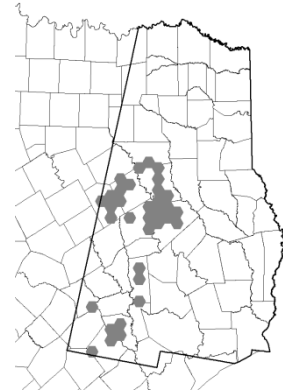
Central Texas: Riparian Evergreen Forest

Area in Phase 2: 615 acres (249 ha)

Description of Mapped Type: Successional or managed forests with eastern redcedar (north) or loblolly pine (south) are characteristic of this type. Sugar hackberry, cedar elm, American elm, plateau live oak (south), and water oak are common canopy trees.

Where to Visit:

None



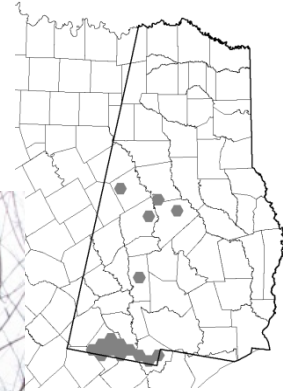
Central Texas: Riparian Evergreen Shrubland

Area in Phase 2: 86 acres (35 ha)

Description of Mapped Type: This uncommon, generally successional or disturbance type is often dominated by eastern redcedar or yaupon. Young pine plantations may also represent this mapped type.

Where to Visit:

None



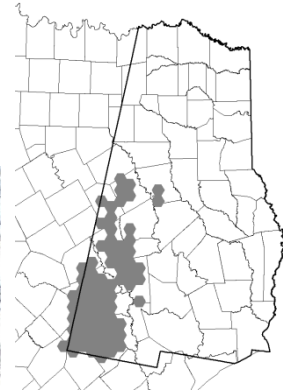
Central Texas: Riparian Hardwood / Evergreen Forest

Area in Phase 2: 3,208 acres (1,298 ha)

Description of Mapped Type: This type often contains a mix of evergreen species, including eastern redcedar, loblolly pine (south and east), or live oak and deciduous species such as water oak, American elm, green ash, cedar elm, sugar hackberry, sycamore, and pecan in the canopy.

Where to Visit:

None



Central Texas: Riparian Hardwood Forest

Area in Phase 2: 44,091 acres (17,844 ha)

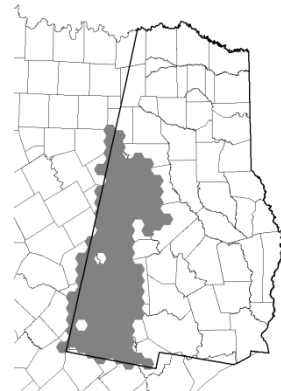
Description of Mapped Type: These forests represent a variety of types and are dominated by deciduous trees such as water oak, sugar hackberry, post oak, pecan, cedar elm, white ash, American elm, sycamore, and green ash in the overstory. Species such as yaupon, eastern redcedar, and American beautyberry are common in the understory.

Where to Visit:

Attwater Prairie Chicken National Wildlife Refuge: US Fish and Wildlife Service

Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers



Central Texas: Riparian Herbaceous Vegetation

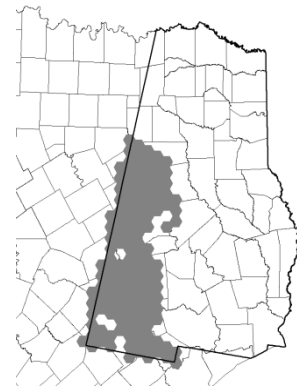
Area in Phase 2: 56,770 acres (22,975 ha)

Description of Mapped Type: These areas are characterized by managed pastures in a variety of conditions, and may contain species such as Bermudagrass, Johnsongrass, little bluestem, western ragweed, common broomweed, Virginia wildrye, and Texas wintergrass.

Where to Visit:

Attwater Prairie Chicken National Wildlife Refuge: US Fish and Wildlife Service

Richland Creek Wildlife Management Area: Texas Parks and Wildlife Department



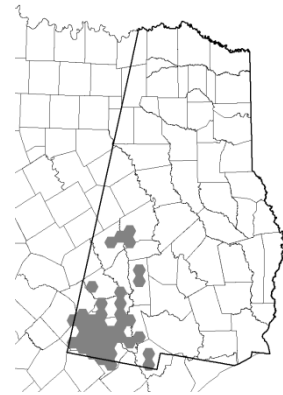
Central Texas: Riparian Live Oak Forest

Area in Phase 2: 724 acres (293 ha)

Description of Mapped Type: Plateau live oak commonly shares dominance with trees such as water oak, cedar elm, sugar hackberry, American elm, and western soapberry in this type. Eastern redcedar or loblolly pine (south) may also be components.

Where to Visit:

None



Chenier Plain: Fresh and Intermediate Tidal Marsh

Area in Phase 2: 181,122 acres (73,300 ha)

Description of Mapped Type: This mapped type includes a variety of tidal-influenced marsh types that may vary from year to year based primarily on storm events and precipitation, and across small areas due to small variations in elevation. Important species may include marshhay cordgrass, maidencane, southern cattail, three-square bulrush, saltgrass, and seashore paspalum.

Where to Visit:

Anahuac National Wildlife Refuge: US Fish and Wildlife Service

J. D. Murphree Wildlife Management Area: Texas Parks and Wildlife Department

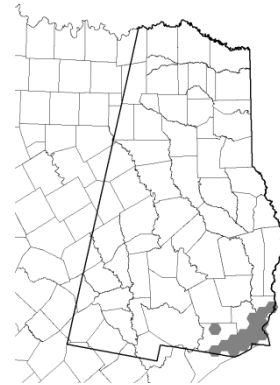
Lower Neches Wildlife Management Area: Texas Parks and Wildlife Department

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Moody National Wildlife Refuge: US Fish and Wildlife Service

Sea Rim State Park: Texas Parks and Wildlife Department

Texas Point National Wildlife Refuge: US Fish and Wildlife Service



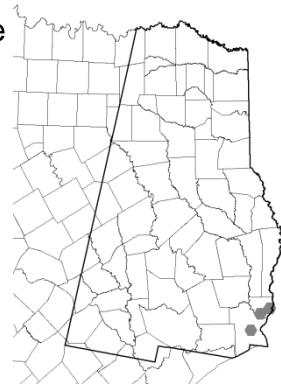
Chenier Plain: Fresh and Intermediate Tidal Shrub Wetland

Area in Phase 2: 68 acres (28 ha)

Description of Mapped Type: This type is mapped in limited areas and may include species such as baccharis or bigleaf sumpweed as important species together with herbaceous species such as marshhay cordgrass.

Where to Visit:

McFaddin National Wildlife Refuge: US Fish and Wildlife Service



Chenier Plain: Hardwood Fringe Forest

Area in Phase 2: 583 acres (236 ha)

Description of Mapped Type: This mapped type occurs over sandy soils and may include species such as water oak, sugar hackberry, sweetgum, Hercules-club pricklyash, coastal live oak, and Chinese tallow as components.

Where to Visit:

None



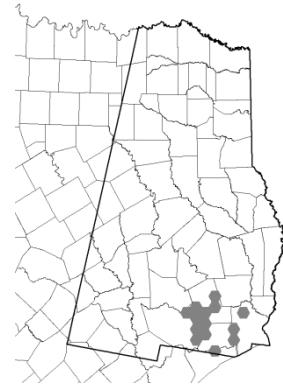
Chenier Plain: Live Oak Fringe Forest

Area in Phase 2: 981 acres (397 ha)

Description of Mapped Type: Nearly pure stands of coastal live oak may occur within this mapped type, and species such as sugar hackberry, western soapberry, Carolina laurelcherry, and Hercules-club pricklyash may be present. Loblolly pine may also be a component.

Where to Visit:

None



Chenier Plain: Mixed Live Oak / Deciduous Hardwood Fringe Forest

Area in Phase 2: 32,535 acres (13,167 ha)

Description of Mapped Type: This mapped type generally occurs over wet soils and may include coastal live oak or loblolly pine mixed with deciduous species, or in some places southern magnolia. Deciduous trees may include laurel oak, water oak, willow oak, cherrybark oak, sweetgum, Hercules-club pricklyash, Chinese tallow, and post oak.

Where to Visit:

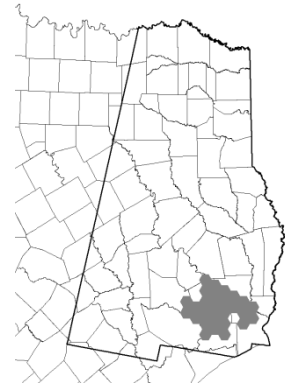
Big Thicket National Preserve: US National Park Service

Davis Hill State Park: Texas Parks and Wildlife Department

High Island Audubon Sanctuary: Houston Audubon Society

Lake Houston Park: City of Houston

Lower Neches Wildlife Management Area: Texas Parks and Wildlife Department



Chenier Plain: Salt and Brackish High Tidal Marsh

Area in Phase 2: 5,869 acres (2,375 ha)

Description of Mapped Type: This mapped type includes a variety of tidal-influenced marsh types that may vary from year to year based primarily on storm events and precipitation, and across small areas due to small variations in elevation. Important species may include marshhay cordgrass, saltgrass, three-square bulrush, and seashore paspalum.

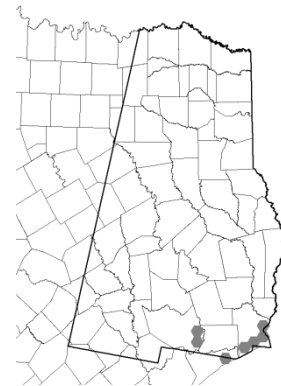
Where to Visit:

Anahuac National Wildlife Refuge: US Fish and Wildlife Service

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Sea Rim State Park: Texas Parks and Wildlife Department

San Jacinto Battleground State Historic Site: Texas Parks and Wildlife Department



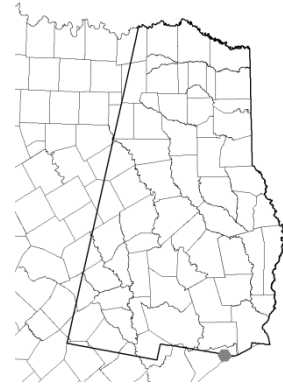
Chenier Plain: Salt and Brackish High Tidal Shrub Wetland

Area in Phase 2: ½ acre (Less than ¼ ha)

Description of Mapped Type: This type is mapped in limited areas and may include species such as baccharis or bigleaf sumpweed as important species together with herbaceous species such as marshhay cordgrass.

Where to Visit:

None



Chenier Plain: Salt and Brackish Low Tidal Marsh

Area in Phase 2: 43,331 acres (17,536 ha)

Description of Mapped Type: This mapped type includes a variety of tidal-influenced marsh types that may vary from year to year based primarily on storm events and precipitation, and across small areas due to small variations in elevation. Smooth cordgrass is a common species, along with other salt-tolerant species such as three-square bulrush, marshhay cordgrass, seashore paspalum, saltgrass, and blackrush,

Where to Visit:

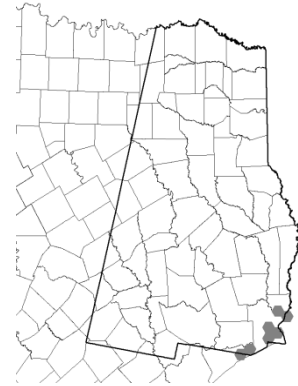
J. D. Murphree Wildlife Management Area: Texas Parks and Wildlife Department

Lower Neches Wildlife Management Area: Texas Parks and Wildlife Department

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Sea Rim State Park: Texas Parks and Wildlife Department

Texas Point National Wildlife Refuge: US Fish and Wildlife Service



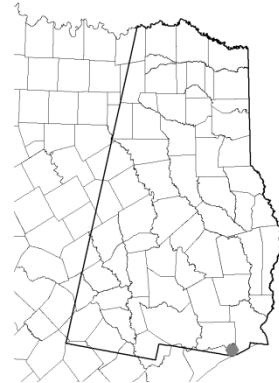
Chenier Plain: Salt and Brackish Low Tidal Shrub Wetland

Area in Phase 2: 13 acres (5 ha)

Description of Mapped Type: This type is mapped in limited areas most influenced by tides, and may include species such as baccharis or bigleaf sumpweed as important species together with herbaceous species such as marshhay cordgrass.

Where to Visit:

None



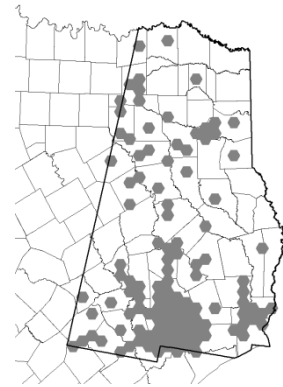
Grass Farms

Area in Phase 2: 8,736 acres (3,535 ha)

Description of Mapped Type: Areas mapped as this type include moist soils with fast-growing grasses, golf courses, and managed hay meadows with Bahia grass, Bermudagrass, or Johnsongrass.

Where to Visit:

None



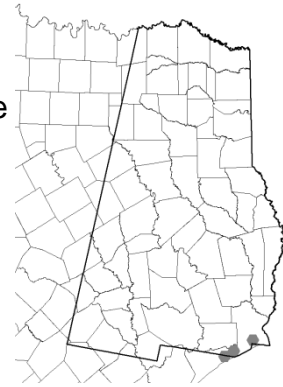
Gulf Coast: Beach

Area in Phase 2: 29 acres (12 ha)

Description of Mapped Type: This mapped type is sparsely vegetated and species such as goat-foot morningglory, bitter panicum, gulf searocket, and largeleaf pennywort may be present.

Where to Visit:

McFaddin National Wildlife Refuge: US Fish and Wildlife Service



Gulf Coast: Coastal Prairie

Area in Phase 2: 942,203 acres (381,310 ha)

Description of Mapped Type: A variety of grasslands are circumscribed by this mapped type, and species such as Bermudagrass, Bahia grass, rat-tail smutgrass, broomsedge bluestem, busy bluestem, brownseed paspalum, and little bluestem may be dominant. Shrubs such as baccharis, Chinese tallow, or mesquite may be present.

Where to Visit:

Anahuac National Wildlife Refuge: US Fish and Wildlife Service

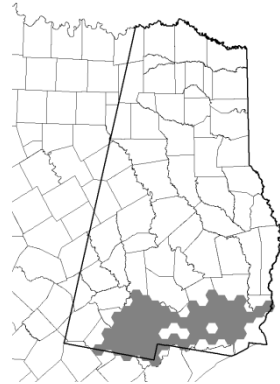
Attwater Prairie Chicken National Wildlife Refuge: US Fish and Wildlife Service

Armand Bayou Nature Preserve: Committee to Preserve Armand Bayou

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Sheldon Lake State Park: Texas Parks and Wildlife Department

D. R. Wintermann Wildlife Management Area: Texas Parks and Wildlife Department



Gulf Coast: Coastal Prairie Pondshore

Area in Phase 2: 73,176 acres (29,614 ha)

Description of Mapped Type: Herbaceous or sparse woody cover is characteristic of this mapped type, and species such as sedges, rushes, switchgrass, bushy bluestem, maidencane, and emergent aquatics may be important. Woody species such as Chinese tallow, sweetgum, water oak, sugar hackberry, rattlebox senna may also form sparse overstory cover.

Where to Visit:

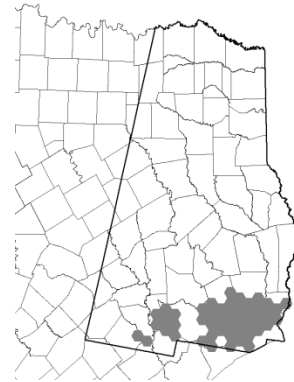
Anahuac National Wildlife Refuge: US Fish and Wildlife Service

Armand Bayou Nature Preserve: Committee to Preserve Armand Bayou

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Moody National Wildlife Refuge: US Fish and Wildlife Service

Sheldon Lake State Park: Texas Parks and Wildlife Department



Gulf Coast: Dune and Coastal Grassland

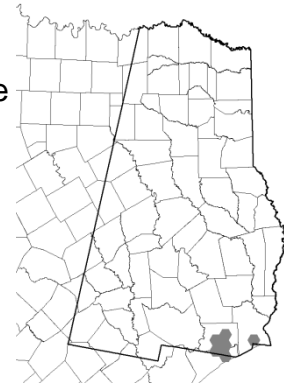
Area in Phase 2: 6,102 acres (2,469 ha)

Description of Mapped Type: Seacoast bluestem and gulfdune paspalum are often important in this mapped type, and slightly lower areas may be dominated by marshhay cordgrass or gulf cordgrass, and coastal dunes may contain sea oats, bitter panicum, or goat-foot morningglory as important components.

Where to Visit:

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Sea Rim State Park: Texas Parks and Wildlife Department



Gulf Coast: Near-Coast Baldcypress Swamp

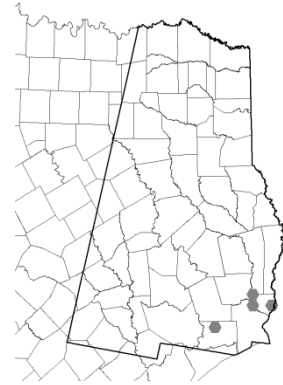
Area in Phase 2: 8,903 acres (3,603 ha)

Description of Mapped Type: Extensive stands of baldcypress characterize this mapped type. Other important species may include water tupelo, green ash, Carolina ash, overcup oak, water elm, water honeylocust, common buttonbush, or water hickory.

Where to Visit:

Big Thicket National Preserve: US National Park Service

Tony Houseman Wildlife Management Area: Texas Parks and Wildlife Department



Gulf Coast: Salty Prairie

Area in Phase 2: 31,221 acres (12,635 ha)

Description of Mapped Type: Gulf cordgrass may form nearly pure stands within this mapped type, or may form mosaics with marshhay cordgrass or saltgrass at slightly lower elevations. Other common grasses include Gulf muhly, switchgrass, and bushy bluestem, and shrubs such as baccharis or bigleaf sumpweed may also occur.

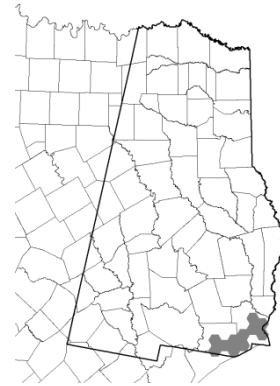
Where to Visit:

Anahuac National Wildlife Refuge: US Fish and Wildlife Service

J. D. Murphree Wildlife Management Area: Texas Parks and Wildlife Department

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Texas Point National Wildlife Refuge: US Fish and Wildlife Service



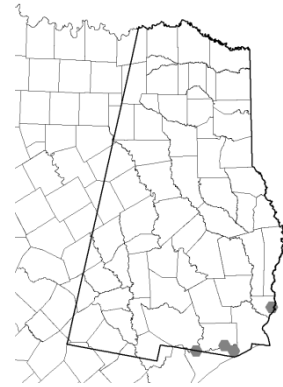
Gulf Coast: Salty Shrubland

Area in Phase 2: 16 acres (6 ha)

Description of Mapped Type: This type is dominated by a mix of shrubs such as baccharis and bigleaf sumpweed together with grasses such as Gulf cordgrass, Gulf muhly, and rat-tail smutgrass.

Where to Visit:

None



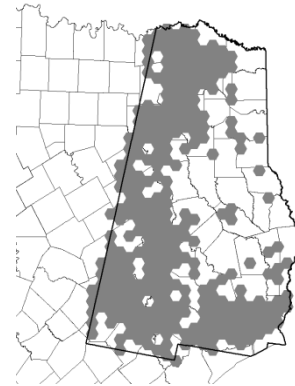
Marsh

Area in Phase 2: 17,486 acres (7,077 ha)

Description of Mapped Type: A variety of small areas of wet soils or alternately wet and dry soils, often near tanks or ponds, are represented within this type. Herbaceous species such as cattails, spikerushes, sedges, and grasses such as Johnsongrass or Bermudagrass may be important.

Where to Visit:

None



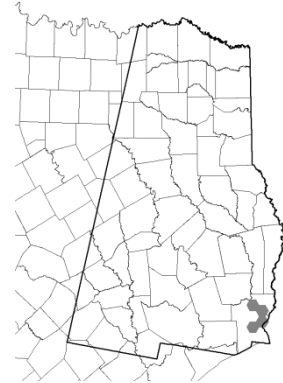
Mud Flat

Area in Phase 2: 209 acres (85 ha)

Description of Mapped Type: This mapped type is essentially unvegetated at the time of data collection, but annual variation in storm events and precipitation influence the ability of these low areas to support vegetation.

Where to Visit:

None



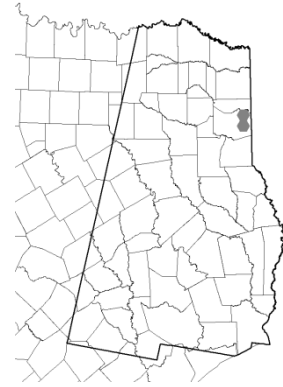
Native Invasive: Baccharis Shrubland

Area in Phase 2: 25 acres (10 ha)

Description of Mapped Type: This rare type is only mapped on saline or alkaline soils. Baccharis or eastern redcedar may be components.

Where to Visit:

None



Native Invasive: Common Reed

Area in Phase 2: 6,216 acres (2,516 ha)

Description of Mapped Type: Areas mapped within this type are often dominated by nearly pure stands of common reed on disturbed or formerly disturbed soils.

Where to Visit:

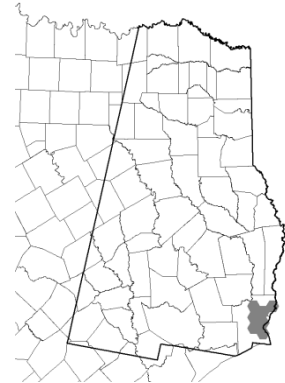
Anahuac National Wildlife Refuge: US Fish and Wildlife Service

J. D. Murphree Wildlife Management Area: Texas Parks and Wildlife Department

Lower Neches Wildlife Management Area: Texas Parks and Wildlife Department

McFaddin National Wildlife Refuge: US Fish and Wildlife Service

Tony Houseman Wildlife Management Area: Texas Parks and Wildlife Department



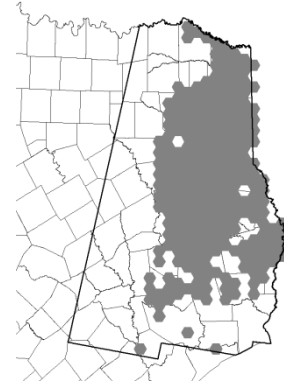
Native Invasive: Deciduous Shrubland

Area in Phase 2: 26,019 acres (10,530 ha)

Description of Mapped Type: A variety of shrubs and generally small or sparse deciduous trees may be important in this successional type that was mapped on non-prairie soils. Important species may include water oak, sweetgum, southern red oak, Chinese tallow (south), baccharis, yaupon, winged elm, sugar hackberry, southern dewberry, and elbow-bush. Small pine trees may be present in young, managed plantations.

Where to Visit:

None



Native Invasive: Deciduous Woodland

Area in Phase 2: 311,754 acres (126,167 ha)

Description of Mapped Type: This broadly-defined type is mapped on prairie soils and may contain sugar hackberry, cedar elm, water oak, sweetgum, winged elm, and yaupon as important species. Chinese tallow and loblolly pine may be present in the southeast.

Where to Visit:

None



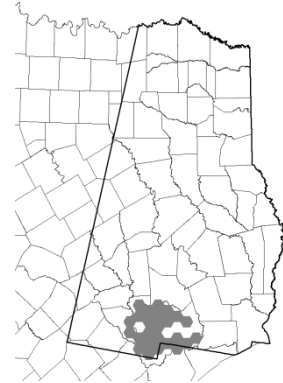
Native Invasive: Huisache Woodland or Shrubland

Area in Phase 2: 9,149 acres (3,703 ha)

Description of Mapped Type: Huisache along with shrubs and trees such as sugar hackberry, cedar elm, mesquite, gum bumelia, water oak, and coastal live oak may be important within this type that was mapped on prairie soils.

Where to Visit:

None



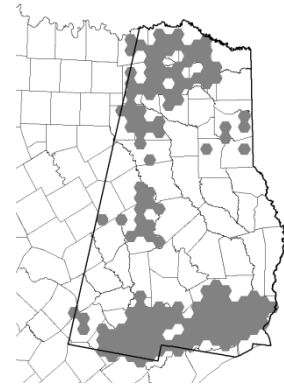
Native Invasive: Juniper Shrubland

Area in Phase 2: 19,184 acres (7,764 ha)

Description of Mapped Type: This type is mapped on prairie soils or on disturbance soils and is commonly dominated by eastern redcedar. A variety of deciduous species may also be present, including cedar elm, winged elm, sugar hack berry, sweetgum, water oak and mesquite. In the southeast, loblolly pine is often the dominant tree.

Where to Visit:

None



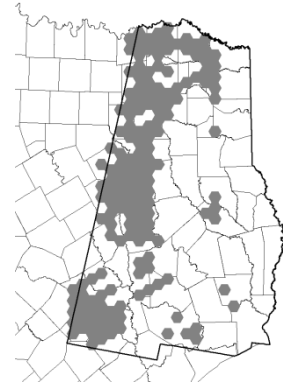
Native Invasive: Juniper Woodland

Area in Phase 2: 55,378 acres (22,411 ha)

Description of Mapped Type: Eastern redcedar is usually the most important tree within this type, which is generally mapped outside of the typical range of pines or over prairie soils when within the range of pine. Loblolly pine plantations may also be included in the south and east, and live oak may be a common component in the south. Deciduous trees such as sugar hackberry, cedar elm, post oak, and water oak may be present, and yaupon may also be a component.

Where to Visit:

None



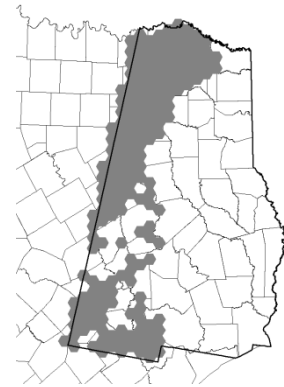
Native Invasive: Mesquite Shrubland

Area in Phase 2: 84,025 acres (34,005 ha)

Description of Mapped Type: Mesquite is often the dominant species of this broadly defined type, but may occur in a variety of open woodlands to dense shrublands with a fairly wide diversity of other species such as post oak, blackjack oak, live oak, cedar elm, winged elm, sugar hackberry, and Texas persimmon. Eastern redcedar may also be a component.

Where to Visit:

None



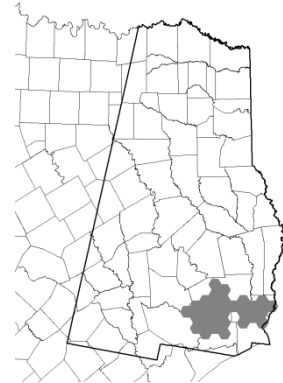
Non-Native Invasive: Chinese Tallow Forest, Woodland, or Shrubland

Area in Phase 2: 192,876 acres (78,057 ha)

Description of Mapped Type: More or less dense stands of Chinese tallow characterize this type, which is generally mapped over prairie soils. Other component species may include baccharis, sweetgum, water oak, blackgum, loblolly pine, and willow oak.

Where to Visit:

None



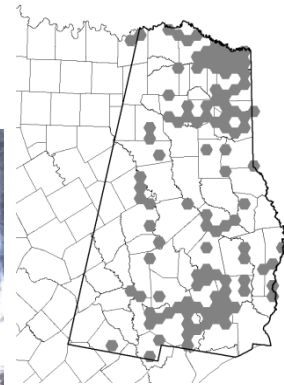
Non-riverine Swamp

Area in Phase 2: 3,320 acres (1,344 ha)

Description of Mapped Type: This type is represented by a variety of wet soils dominated by deciduous trees, often near tanks or small reservoirs. Species such as black willow, water oak, sweetgum, American elm, baldcypress, or common buttonbush may be present and rarely is this type represented by baldcypress swamp.

Where to Visit:

None



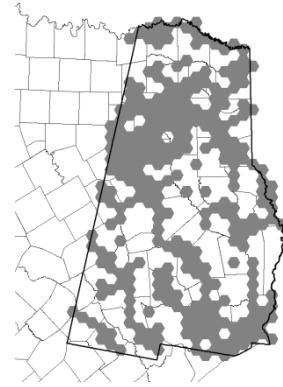
Open Water

Area in Phase 2: 1,046,745 acres (423,618 ha)

Description of Mapped Type: Most open water in Phase 2 consists of reservoirs, bays, large ponds, canals, and the Gulf of Mexico, although larger rivers are also mapped as open water.

Where to Visit:

None



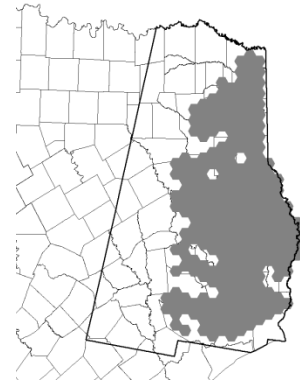
Pine Plantation > 3 meters tall

Area in Phase 2: 645,271 acres (261,141 ha)

Description of Mapped Type: Dense stands of loblolly or mixed loblolly and shortleaf pine characterize this type that is mapped over moist soils where natural pine stands are not expected to occur. Important components may include sweetgum, water oak, blackgum, southern red oak, post oak, and white oak.

Where to Visit:

None



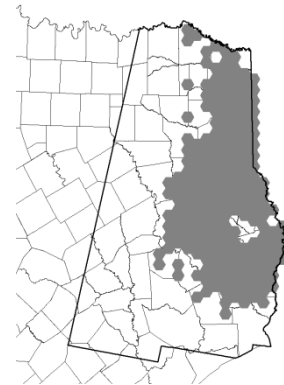
Pine Plantation 1 to 3 meters tall

Area in Phase 2: 388,233 acres (157,118 ha)

Description of Mapped Type: Young, planted loblolly pine stands are most common within this type, which is mapped over moist soils where natural pine stands are not expected to occur. Other species such as sweetgum, water oak, winged elm, yaupon, and southern dewberry may also be components.

Where to Visit:

None



Pineywoods: Bottomland Baldcypress Swamp

Area in Phase 2: 125,143 acres (50,645 ha)

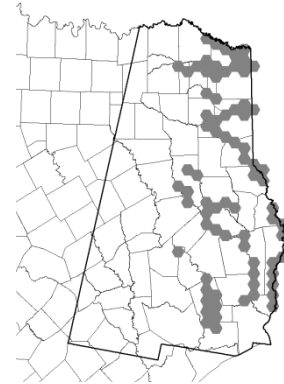
Description of Mapped Type: Baldcypress may form nearly pure stands within this mapped type. Other important species may include water tupelo, green ash, overcup oak, willow oak, water elm, common buttonbush, or water hickory.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department



Sabine National Forest:
USDA Forest Service

Trinity River National
Wildlife Refuge: US Fish
and Wildlife Service

White Oak Creek Wildlife
Management Area: Texas
Parks and Wildlife
Department

Wright Patman Lake: US
Army Corps of Engineers

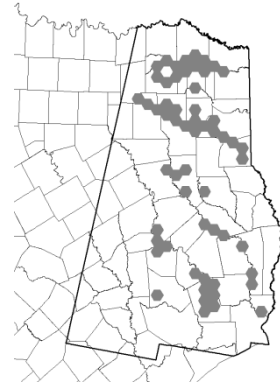
Pineywoods: Bottomland Deciduous Successional Shrubland

Area in Phase 2: 8,132 acres (3,291 ha)

Description of Mapped Type: Young trees and shrubs characterize this type. Green ash, black willow, red maple, sweetgum, water oak, winged elm, gum bumelia, and yaupon may be important. Other sites may be dominated by common buttonbush.

Where to Visit:

None



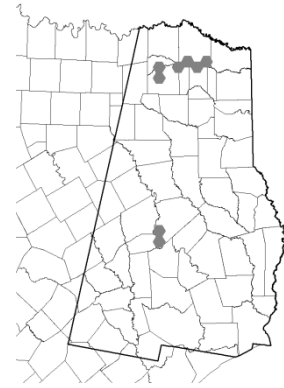
Pineywoods: Bottomland Evergreen Successional Shrubland

Area in Phase 2: 421 acres (170 ha)

Description of Mapped Type: Easter redcedar old fields or young pine plantations (northeast) characterize this mapped vegetation type.

Where to Visit:

None



Pineywoods: Bottomland Herbaceous Wetland

Area in Phase 2: 57,726 acres (23,362 ha)

Description of Mapped Type: A variety of herbaceous vegetation on floodplains occurs within this mapped type. Marshes with sedges, rushes, and other wetland species may dominate, and drier areas may support little bluestem, broomsedge bluestem, bushy bluestem, switchgrass, or introduced grasses such as Johnsongrass, Bermudagrass, and Bahia grass (south). Shrubs and small trees may include black willow, wax-myrtle, common buttonbush, and sweetgum.

Where to Visit:

Angelina National Forest: USDA Forest Service

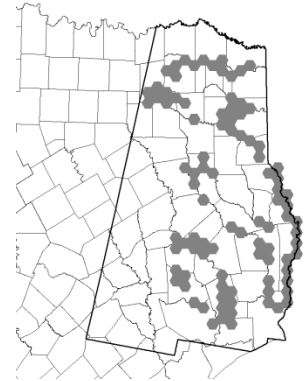
Big Thicket National Preserve: US National Park Service

Little Sandy National Wildlife Refuge: US Fish and Wildlife Service

Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

Trinity River National Wildlife Refuge: US Fish and Wildlife Service



Pineywoods: Bottomland Seasonally Flooded Hardwood Forest

Area in Phase 2: 369,018 acres (149,342 ha)

Description of Mapped Type: Willow oak, overcup oak (east), sweetgum, green ash, sugar hackberry, cedar elm, swamp post oak, and American elm may be important in this mapped type. Some wetter areas with water elm and baldcypress also occur, and American hornbeam is a common understory species.

Where to Visit:

Alazan Bayou Wildlife Management Area: Texas Parks and Wildlife Department

Angelina National Forest: USDA Forest Service

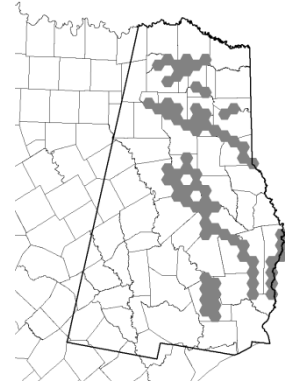
Big Thicket National Preserve: US National Park Service

Little Sandy National Wildlife Refuge: US Fish and Wildlife Service

Old Sabine Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Trinity River National Wildlife Refuge: US Fish and Wildlife Service

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department



Pineywoods: Bottomland Temporarily Flooded Hardwood Forest

Area in Phase 2: 229,596 acres (92,918 ha)

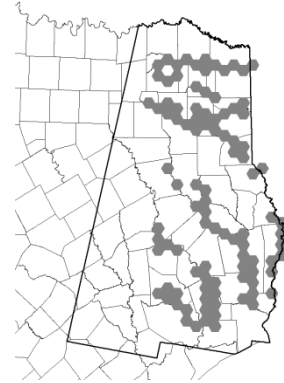
Description of Mapped Type: Deciduous trees such as sweetgum, water oak, sugar hackberry, green ash, willow oak, blackgum, sycamore, black willow, and American elm may be important in this mapped type. American hornbeam, possumhaw and winged elm are common understory species.

Where to Visit:

Big Thicket National Preserve: US National Park Service

Caddo National Grasslands Wildlife Management Area:
Texas Parks and Wildlife Department

Davis Hill State Park: Texas Parks and Wildlife Department



Old Sabine Bottom Wildlife Management Area: Texas Parks and Wildlife Department

Sabine National Forest: USDA Forest Service

Trinity River National Wildlife Refuge: US Fish and Wildlife Service

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers

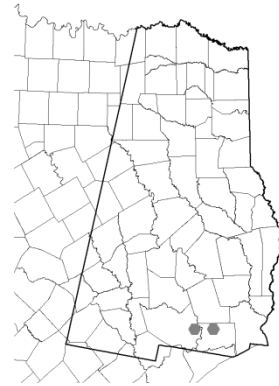
Pineywoods: Bottomland Temporarily Flooded Live Oak Forest

Area in Phase 2: 54 acres (22 ha)

Description of Mapped Type: Coastal live oak shares dominance with deciduous species such as pecan, water oak, sweetgum, and sugar hackberry in this uncommon mapped type. Loblolly pine may also be a component.

Where to Visit:

None



Pineywoods: Bottomland Temporarily Flooded Mixed Pine / Hardwood Forest

Area in Phase 2: 16,885 acres (6,833 ha)

Description of Mapped Type: Managed loblolly pine stands with deciduous trees such as sweetgum, water oak, bottomland post oak, willow oak, cedar elm, American holly, and laurel oak (east) predominant within this mapped type. In the south, some stands may contain southern magnolia and American beech.

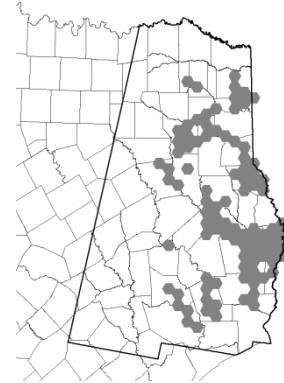
Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Jim Chapman Lake/Cooper Dam: US Army Corps of Engineers

Davy Crockett National Forest: USDA Forest Service



Dwight D. Eisenhower Park:
City of San Antonio

Sabine National Forest: USDA
Forest Service



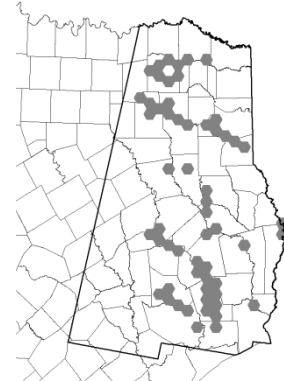
Pineywoods: Bottomland Wet Prairie

Area in Phase 2: 82,083 acres (33,219 ha)

Description of Mapped Type: Introduced grasses such as Bermudagrass, Bahia grass, and Johnsongrass may dominate many areas of this mapped type, and natives such as broomsedge bluestem, bushy bluestem, switchgrass, little bluestem, and Florida paspalum may be important in some areas. Common sparse woody cover may include black willow, wax-myrtle, common buttonbush, sweetgum, red maple, and water oak.

Where to Visit:

None



Pineywoods: Catahoula Herbaceous Barrens

Area in Phase 2: 89 acres (36 ha)

Description of Mapped Type: This mapped type occurs over soils that may vary in depth across small areas. Important species, depending on soil depth, may include Nuttall's rayless golden-rod, poverty dropseed, poverty threeawn, little bluestem, broomsedge bluestem, and Silveus' dropseed. Post oak, blackjack oak, and pines (longleaf, shortleaf) may form a sparse overstory.

Where to Visit:



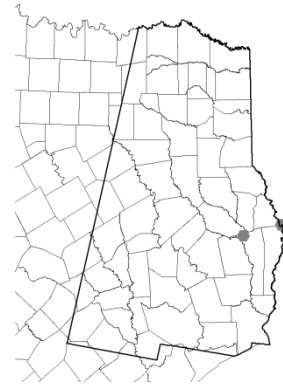
Pineywoods: Catahoula Woodland or Shrubland Barrens

Area in Phase 2: 69 acres (28 ha)

Description of Mapped Type: This mapped type circumscribes shrublands and woodlands over soils that may vary in depth across small areas. Post oak is often a component, together with blackjack oak, black hickory, and southern red oak. Longleaf pine, shortleaf pine, and eastern redcedar are often components. Herbaceous species may include little bluestem, threeawns, and Silveus' dropseed over deeper soils, and poverty dropseed and Nuttall's rayless golden-rod over patches of shallow soil.

Where to Visit:

Angelina National Forest: USDA Forest Service



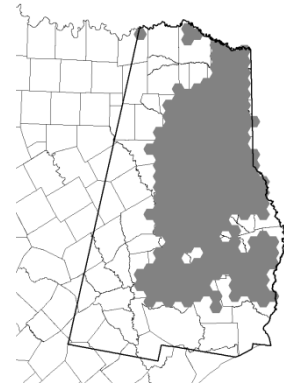
Pineywoods: Disturbance or Tame Grassland

Area in Phase 2: 2,480,334 acres (1,003,791 ha)

Description of Mapped Type: This mapped type includes many areas dominated by introduced species such as Bermudagrass, Bahia grass, and Johnsongrass. Important components may also include little bluestem, broomsedge bluestem, and hog croton, as well as shrubs such as yaupon and southern dewberry and sparse trees such as post oak and loblolly pine.

Where to Visit:

None



Pineywoods: Dry Pine / Hardwood Forest or Plantation

Area in Phase 2: 16,306 acres (6,599 ha)

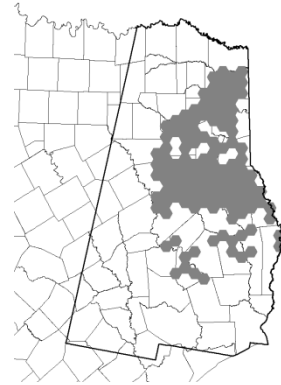
Description of Mapped Type: Shortleaf pine or loblolly pine share dominance with deciduous species such as post oak, blackjack oak, black hickory, sweetgum, and water oak on ridges or hilltops within this mapped type.

Where to Visit:

Angelina National Forest: USDA Forest Service

Sabine National Forest: USDA Forest Service

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Dry Pine Forest or Plantation

Area in Phase 2: 57,527 acres (23,281 ha)

Description of Mapped Type: Shortleaf pine or loblolly pine may dominate these upland ridges and hilltops, and deciduous species such as post oak, blackjack oak, southern red oak, sweetgum, and black hickory are common components. Longleaf pine may dominate in areas within the range of this species (south).

Where to Visit:

Angelina National Forest: USDA Forest Service

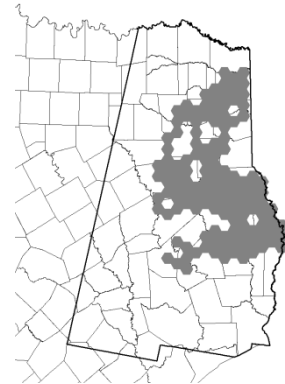
Davy Crockett National Forest: USDA Forest Service

Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

Tyler State Park: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Dry Upland Hardwood Forest

Area in Phase 2: 50,601 acres (20,478 ha)

Description of Mapped Type: Hardwoods such as post oak, blackjack oak, southern red oak, water oak, sweetgum, and black hickory may dominate this upland ridge and hilltop mapped type, and shortleaf or loblolly pines are often overstory components.

Where to Visit:

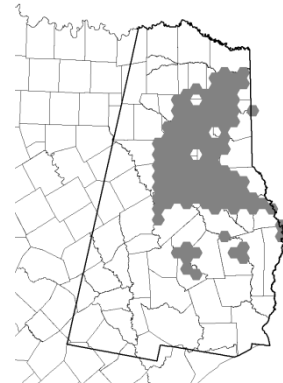
Angelina National Forest: USDA Forest Service

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Sabine National Forest: USDA Forest Service

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Hardwood Flatwoods

Area in Phase 2: 367,615 acres (148,774 ha)

Description of Mapped Type: Willow oak, water oak, laurel oak, swamp chestnut oak (east), overcup oak, sweetgum, and green ash are common components of this mapped type. Loblolly pine or longleaf pine (south) may be components and dwarf palmetto may form an understory, but is absent in the north. Some areas in the south are locally dominated by Chinese tallow.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

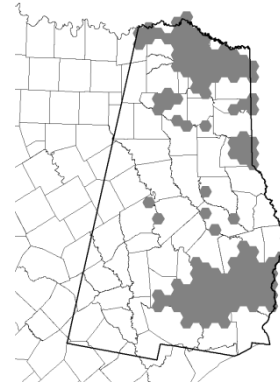
Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Lake Houston Park: City of Houston

Roy E. Larsen Sandyland Sanctuary: The Nature Conservancy

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Herbaceous Flatwoods Pond

Area in Phase 2: 19,297 acres (7,809 ha)

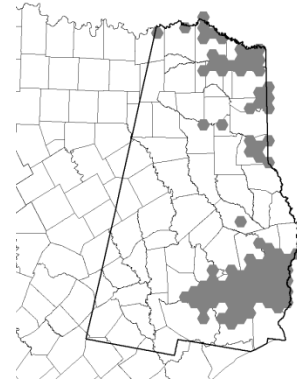
Description of Mapped Type: This mapped type is represented by a variety of mesic grasslands or marshes over flatwoods soils. Important species may include little bluestem, broomsedge bluestem, bushy bluestem, maidencane, and a variety of spikerushes and other sedge species. Some areas have been converted to tame grasses such as Bermudagrass. Woody species such as common buttonbush, swamp tupelo (south), swamp chestnut oak, loblolly pine, longleaf pine (south), water oak, sweetgum, and willow oak may be present.

Where to Visit:

Roy E. Larsen Sandyland Sanctuary: The Nature Conservancy

Sheldon Lake State Park: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Herbaceous Seepage Bog

Area in Phase 2: 881 acres (357 ha)

Description of Mapped Type: This mapped type includes true bogs that support pitcher-plants and sphagnum together with grasses and sedges (south), as well as areas that are essentially marshes that lack sphagnum and pitcher-plants (north). In the south, pines and species such as redbay, sweetbay, wax-myrtle, and common buttonbush may occur throughout the mapped range.

Where to Visit:

Angelina National Forest: USDA Forest Service



Pineywoods: Longleaf or Loblolly Pine / Hardwood Flatwoods or Plantation

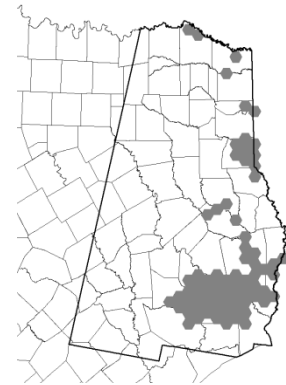
Area in Phase 2: 77,136 acres (31,217 ha)

Description of Mapped Type: Loblolly pine managed forests with a hardwood component characterize this type, but more natural longleaf stands may occur in the south, and slash pine managed forests also occur mainly in the south. Sweetgum, blackgum, water oak, willow oak, and swamp chestnut oak are common canopy trees.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service



Lake Houston Park:
City of Houston

Martin Dies, Jr. State
Park: Texas Parks and
Wildlife Department

Sabine National Forest:
USDA Forest Service

Sam Houston National
Forest Wildlife
Management Area:
Texas Parks and
Wildlife Department

Wright Patman Lake:
US Army Corps of
Engineers

Pineywoods: Longleaf or Loblolly Pine Flatwoods or Plantation

Area in Phase 2: 456,483 acres (184,739 ha)

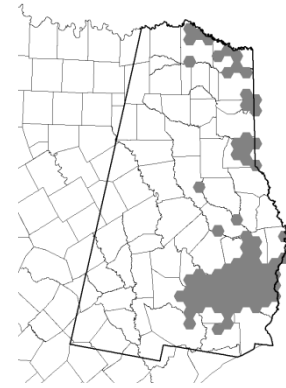
Description of Mapped Type: Loblolly pine plantations predominate within this mapped type. Relatively natural longleaf pine stands may occur in the south, and slash pine plantations may also occur. Deciduous trees such as laurel oak, willow oak, water oak, sweetgum, swamp chestnut oak, and blackgum may also be important.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Caddo National Grasslands Wildlife Management Area: Texas



Parks and Wildlife
Department

Lake Houston Park: City
of Houston

Martin Dies, Jr. State
Park: Texas Parks and
Wildlife Department

Sabine National Forest:
USDA Forest Service

Sam Houston National
Forest Wildlife
Management Area:
Texas Parks and Wildlife
Department

Wright Patman Lake: US
Army Corps of Engineers

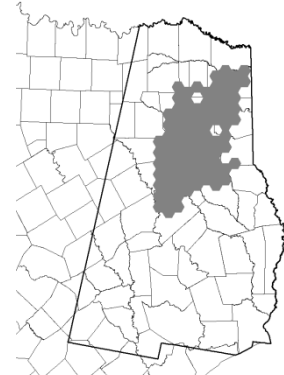
Pineywoods: Northern Mesic Hardwood Forest

Area in Phase 2: 218,679 acres (88,499 ha)

Description of Mapped Type: Relatively steep slopes and narrow valleys characterize this mapped type, and southern red oak, white oak, post oak, sweetgum, water oak, mockernut hickory, winged elm, and red maple are common components. Loblolly pine and/or shortleaf pine are also common elements.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department



Davy Crockett
National Forest:
USDA Forest Service

Old Sabine Bottom
Wildlife Management
Area: Texas Parks
and Wildlife
Department

Tyler State Park:
Texas Parks and
Wildlife Department

White Oak Creek
Wildlife Management
Area: Texas Parks
and Wildlife
Department

Wright Patman Lake:
US Army Corps of
Engineers

Pineywoods: Northern Mesic Pine / Hardwood Forest

Area in Phase 2: 40,201 acres (16,269 ha)

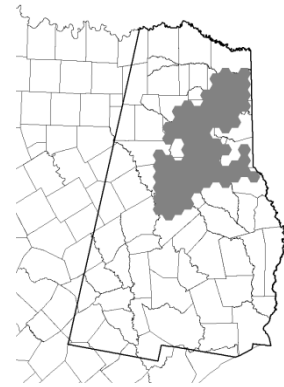
Description of Mapped Type: Relatively steep slopes and narrow valleys or ravines characterize this mapped type. Loblolly pine, or less frequently shortleaf pine, shares dominance with deciduous species such as white oak, blackgum, sweetgum, southern red oak, water oak, black hickory, mockernut hickory, and red maple.

Where to Visit:

Davy Crockett National Forest: USDA Forest Service

Sabine National Forest: USDA Forest Service

Wright Patman Lake: US Army Corps of Engineers



Pineywoods: Pine / Hardwood Forest or Plantation

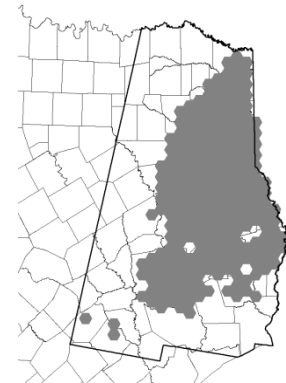
Area in Phase 2: 624,050 acres (252,553 ha)

Description of Mapped Type: Managed loblolly pine forests are most common within this mapped type, and hardwoods such as sweetgum, water oak, post oak, southern red oak, and cedar elm are common co-dominant species. Shortleaf pine is also a common component and longleaf pine may dominate some areas within its range (southeast).

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service



Davy Crockett National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area:
Texas
Parks and Wildlife Department

Sabine National Forest: USDA Forest Service

Pineywoods: Pine Forest or Plantation

Area in Phase 2: 4,136,767 acres (1,674,149 ha)

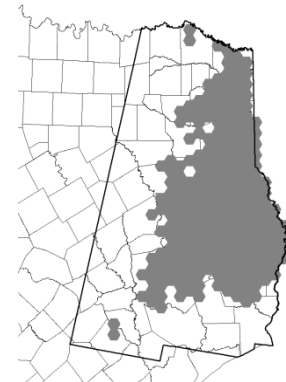
Description of Mapped Type: Managed loblolly pine plantations and forests predominate within this mapped type, and species such as sweetgum, southern red oak, water oak, and post oak are common components. Shortleaf pine is also common, especially to the north or on drier sites, and longleaf pine may be dominant in limited areas within the range of this species (southeast).

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Caddo National Grasslands Wildlife Management Area: Texas



Parks and Wildlife
Department

Davy Crockett National
Forest: USDA Forest
Service

Sam Houston National
Forest Wildlife
Management Area:
Texas
Parks and Wildlife
Department

Sabine National Forest:
USDA Forest Service

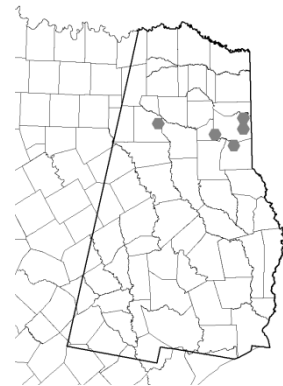
Pineywoods: Saline Glade

Area in Phase 2: 236 acres (96 ha)

Description of Mapped Type: This mapped type occurs over soils that vary in salinity across small areas, and may include sparse woodlands and shrublands as well as herbaceous vegetation. Post oak, blackjack oak, baccharis, and narrowleaf sumpweed may be important woody species. Three-awns, saltgrass, and spikerushes and other sedges may occur in the herbaceous layer.

Where to Visit:

None



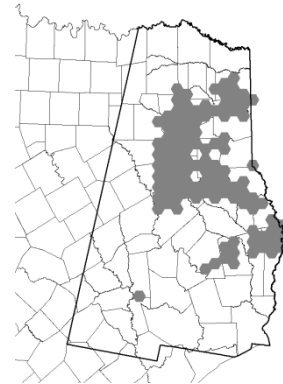
Pineywoods: Sandhill Grassland or Shrubland

Area in Phase 2: 10,697 acres (4,329 ha)

Description of Mapped Type: Little bluestem often shares dominance with shrubs and small trees such as post oak, blackjack oak, bluejack oak, southern red oak, sweetgum, black hickory, and eastern redbud within this ridge and hilltop mapped type. On the deepest sands, species most common on, or endemic to, sands such as narrowleaf pinweed, cardinal's feather, rattlesnake flower, Carrizo Sands woollywhite, and showy nerve-ray may be components.

Where to Visit:

None



Pineywoods: Sandhill Oak / Pine Woodland

Area in Phase 2: 44,056 acres (17,829 ha)

Description of Mapped Type: Shortleaf pine, loblolly pine, or longleaf pine (south) may share dominance with deciduous species such as post oak, blackjack oak, bluejack oak, southern red oak, black hickory, sand post oak, and sweetgum within this ridge and hilltop mapped type.

Where to Visit:

Sabine National Forest: USDA Forest Service



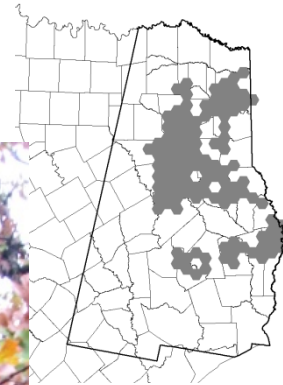
Pineywoods: Sandhill Oak Woodland

Area in Phase 2: 16,408 acres (6,640 ha)

Description of Mapped Type: Blackjack oak, post oak, bluejack oak, sand post oak, southern red oak, and sweetgum may be among the dominant trees in this ridge and hilltop type. Loblolly pine, shortleaf pine, and longleaf pine (south) may be components.

Where to Visit:

Sabine National Forest: USDA Forest Service



Pineywoods: Sandhill Pine Woodland

Area in Phase 2: 26,877 acres (10,877 ha)

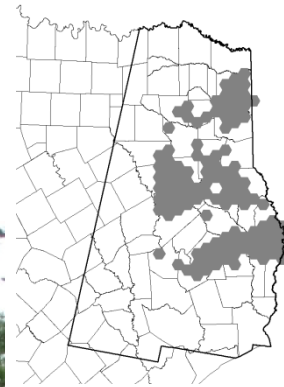
Description of Mapped Type: Shortleaf pine, loblolly pine, or longleaf pine (south) may dominate this ridge or hilltop type, and hardwoods such as post oak, blackjack oak, bluejack oak, southern red oak, sand post oak, and sweetgum are often components.

Where to Visit:

Angelina National Forest: USDA Forest Service

Davy Crockett National Forest: USDA Forest Service

Sabine National Forest: USDA Forest Service



Sam Houston
National Forest:
USDA Forest Service



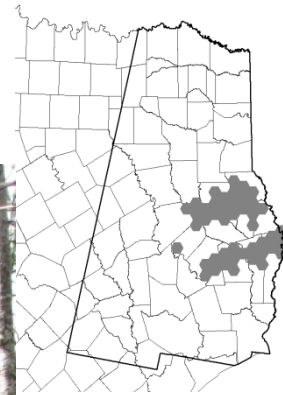
Pineywoods: Seepage Swamp and Baygall

Area in Phase 2: 2,000 acres (809 ha)

Description of Mapped Type: This mapped type of steep valleys and ravines represents a variety of mesic forest types. Species such as sweetbay, redbay, swamp tupelo, red maple, gallberry holly (south), laurel oak, southern magnolia (south), American beech, and American holly may be important. Loblolly pine may also be a component.

Where to Visit:

None



Pineywoods: Small Stream and Riparian Baldcypress Swamp

Area in Phase 2: 23,600 acres (9,551 ha)

Description of Mapped Type: Baldcypress swamps or shrub swamps with water elm, common buttonbush, or water honeylocust (east) occur within this mapped type, along with wet forests that may contain sweetgum, laurel oak (east), willow oak, black willow, overcup oak (east), and green ash in the canopy.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

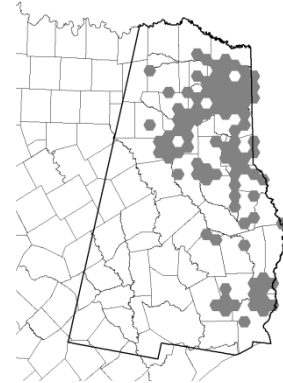
Cooper Wildlife Management Area: Texas Parks and Wildlife Department

Little Sandy National Wildlife Refuge: US Fish and Wildlife Service

Sabine National Forest: USDA Forest Service

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



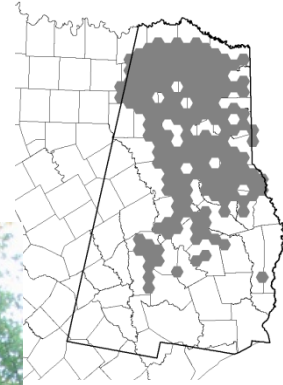
Pineywoods: Small Stream and Riparian Deciduous Successional Shrubland

Area in Phase 2: 13,078 acres (5,293 ha)

Description of Mapped Type: Sparse cover of deciduous trees or shrubs characterize this mapped type, and species such as black willow, sweetgum, yaupon, green ash, cedar elm, winged elm, common buttonbush, swamp privet, gum bumelia, and possumhaw may be important.

Where to Visit:

None



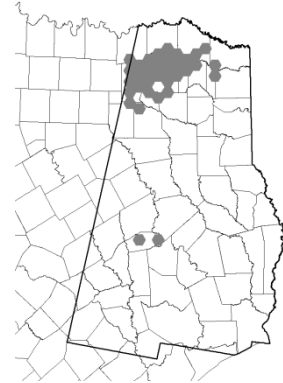
Pineywoods: Small Stream and Riparian Evergreen Successional Shrubland

Area in Phase 2: 556 acres (225 ha)

Description of Mapped Type: Eastern redcedar or loblolly pine plantations characterize this mapped type and deciduous species such as sweetgum, southern red oak, post oak, sugar hackberry, cedar elm, and winged elm may be present.

Where to Visit:

None



Pineywoods: Small Stream and Riparian Herbaceous Wetland

Area in Phase 2: 18,167 acres (7,352 ha)

Description of Mapped Type: A variety of herbaceous vegetation on floodplains occurs within this mapped type. Sedges, rushes, and other wetland species may dominate, and drier areas may support little bluestem, broomsedge bluestem, bushy bluestem, or introduced grasses such as Johnsongrass, Bermudagrass, and Bahia grass (south). Shrubs and small trees may include black willow, wax-myrtle, common buttonbush, and sweetgum.

Where to Visit:

Alazan Bayou Wildlife Management Area: Texas Parks and Wildlife Department

Angelina National Forest: USDA Forest Service

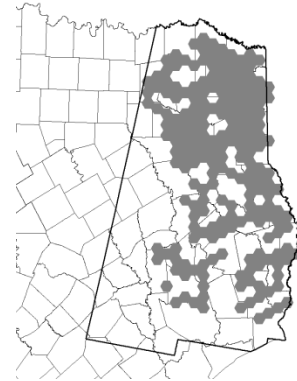
Big Thicket National Preserve: US National Park Service

Little Sandy National Wildlife Refuge: US Fish and Wildlife Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



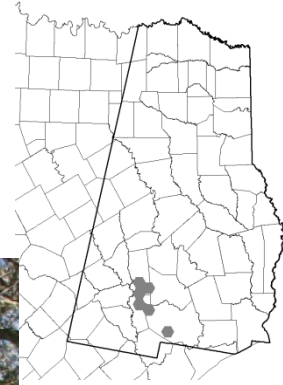
Pineywoods: Small Stream and Riparian Live Oak Temporarily Flooded Forest

Area in Phase 2: 39 acres (16 ha)

Description of Mapped Type: Live oak together with deciduous species such as water oak, post oak, pecan, cedar elm, sugar hackberry, and in some places loblolly pine may dominate this uncommon mapped type.

Where to Visit:

None



Pineywoods: Small Stream and Riparian Seasonally Flooded Hardwood Forest

Area in Phase 2: 222,369 acres (89,993 ha)

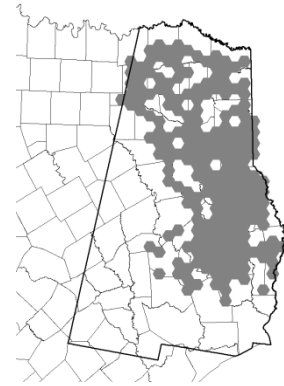
Description of Mapped Type: Willow oak, sweetgum, water oak, green ash, black willow, river birch, American elm, water oak, and overcup oak (east) may be important in the canopy of this mapped type, and American hornbeam is a common understory component.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Cooper Wildlife Management Area: Texas Parks and Wildlife Department



Davy Crockett National Forest: USDA Forest Service

Roy E. Larsen Sandyland Sanctuary: The Nature Conservancy

Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers

Pineywoods: Small Stream and Riparian Temporarily Flooded Hardwood Forest

Area in Phase 2: 938,451 acres (379,791 ha)

Description of Mapped Type: Deciduous trees such as willow oak, sweetgum, water oak, river birch, black willow, sugar hackberry, green ash, blackgum, and American elm may be important in this mapped type. Loblolly pine may be a component, and American hornbeam is a common understory species.

Where to Visit:

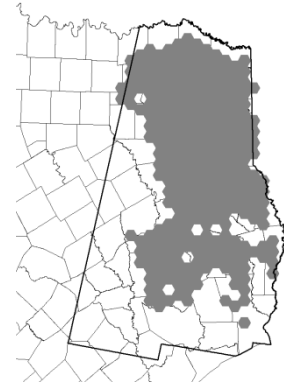
Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Cooper Wildlife Management Area: Texas Parks and Wildlife Department

Davy Crockett National Forest: USDA Forest Service

Roy E. Larsen Sandyland Sanctuary: The Nature Conservancy



Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

White Oak Creek Wildlife Management Area: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers

Pineywoods: Small Stream and Riparian Temporarily Flooded Mixed Forest

Area in Phase 2: 91,617 acres (37,077 ha)

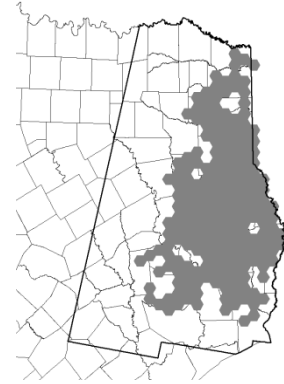
Description of Mapped Type: Deciduous trees such as water oak, sweetgum, cherrybark oak, willow oak, black willow, green ash, winged elm, and blackgum may share dominance with loblolly pine in this mapped type. Some areas in the south contain southern magnolia and American beech as components.

Where to Visit:

Angelina National Forest: USDA Forest Service

Bannister Wildlife Management Area: Texas Parks and Wildlife Department

Big Thicket National Preserve: US National Park Service



Davy Crockett National Forest: USDA Forest Service

Roy E. Larsen Sandyland Sanctuary: The Nature Conservancy

Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

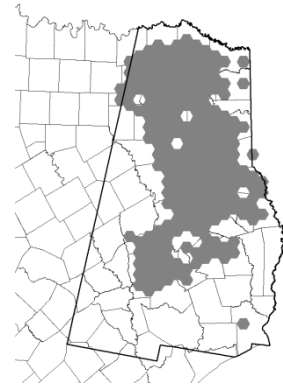
Pineywoods: Small Stream and Riparian Wet Prairie

Area in Phase 2: 397,577 acres (160,899 ha)

Description of Mapped Type: Introduced grasses such as Bermudagrass, Bahia grass, and Johnsongrass may dominate many areas of this mapped type, and natives such as broomsedge bluestem, bushy bluestem, switchgrass, little bluestem, and Florida paspalum may be important in some areas. Common sparse woody cover may include black willow, wax-myrtle, common buttonbush, sweetgum, red maple, and water oak.

Where to Visit:

None



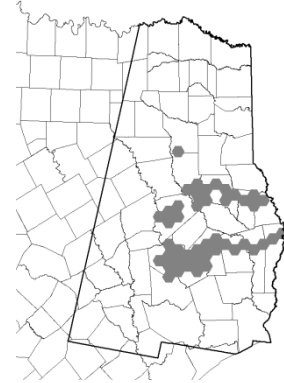
Pineywoods: Southern Calcareous Mixedgrass Prairie

Area in Phase 2: 56,179 acres (22,736 ha)

Description of Mapped Type: This mapped type represents grasslands in a variety of conditions, and important species may include Bermudagrass, little bluestem, sideoats grama, broomsedge bluestem, Texas wintergrass, grammas, and threeawns. Forbs such as snow-on-the-prairie, yellow neptunia, prairie acacia, and scarlet-pea may occur. Sparse tree and shrub cover may be composed of species such as cedar elm, gum bumelia, sugar hackberry, sweetgum, post oak, eastern redcedar, and loblolly pine.

Where to Visit:

None



Pineywoods: Southern Mesic Hardwood Forest

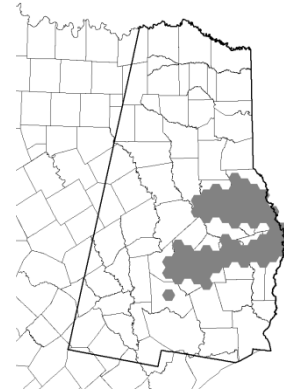
Area in Phase 2: 67,301 acres (27,237 ha)

Description of Mapped Type: Relatively steep slopes and narrow valleys or ravines characterize this mapped type. White oak, blackgum, sweetgum, southern red oak, water oak, willow oak, mockernut hickory, and red maple are common components. In the wettest areas in the south, southern magnolia and American beech may be locally dominant. American hornbeam and American hop-hornbeam are both common understory components.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service



Davy Crockett National Forest: USDA Forest Service

Sabine National Forest: USDA Forest Service

Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department

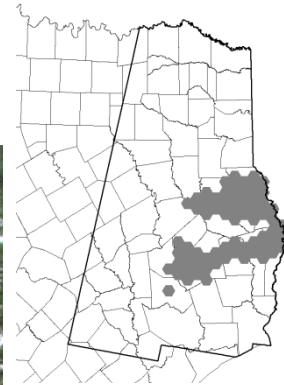
Pineywoods: Southern Mesic Pine / Hardwood Forest

Area in Phase 2: 28,504 acres (11,536 ha)

Description of Mapped Type: Relatively steep slopes and narrow valleys or ravines characterize this mapped type. Loblolly pine shares dominance with trees such as white oak, blackgum, sweetgum, southern red oak, water oak, willow oak, mockernut hickory, and red maple. In the wettest areas in the south, southern magnolia and American beech may be locally important. American hornbeam and American hop-hornbeam are both common understory components.

Where to Visit:

Angelina National Forest: USDA Forest Service



Bannister Wildlife
Management Area:
Texas Parks and
Wildlife Department

Big Thicket National
Preserve: US
National Park Service

Davy Crockett
National Forest:
USDA Forest Service

Sabine National
Forest: USDA Forest
Service

Pineywoods: Upland Hardwood Forest

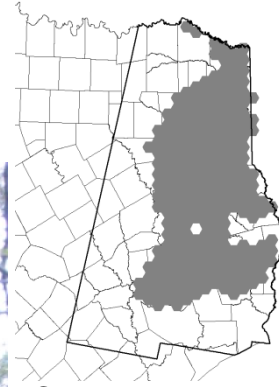
Area in Phase 2: 2,780,545 acres (1,125,286 ha)

Description of Mapped Type: Hardwoods such as sweetgum, post oak, southern red oak, and water oak may be dominant within this mapped type, and loblolly pine or shortleaf pine are common components. Slightly wetter sites may contain species such as white oak and willow oak as important overstory trees.

Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service



Caddo National
Grasslands Wildlife
Management Area:
Texas Parks and
Wildlife Department

Davy Crockett
National Forest:
USDA Forest Service

Sabine National
Forest: USDA Forest
Service

Sam Houston
National Forest
Wildlife Management
Area: Texas Parks
and Wildlife
Department

Wright Patman Lake:
US Army Corps of
Engineers

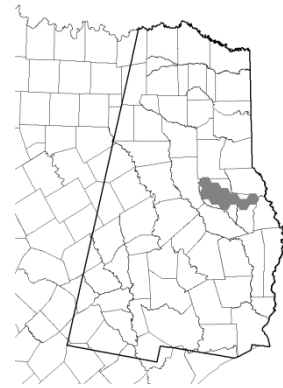
Pineywoods: Weches Herbaceous Glade

Area in Phase 2: 8,349 acres (3,379 ha)

Description of Mapped Type: This mapped type consists of herbaceous vegetation that may occur over relatively shallow to relatively deeper soils. Grasses such as Bermudagrass, threeawns, hairy grama, Texas grama, little bluestem, and broomsedge bluestem are common components. Shrubs and scattered trees such as eastern redbud, gum bumelia, roughleaf dogwood, eastern redcedar, post oak, and loblolly pine may be present. The shallowest soils may be dominated by species such as poverty dropseed, Texas sedum, and Ozark savory.

Where to Visit:

None



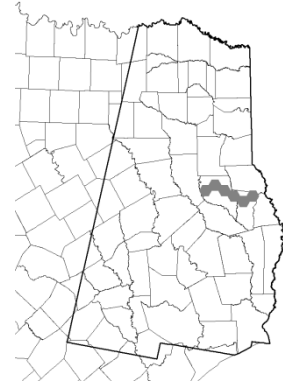
Pineywoods: Weches Shrub Glade

Area in Phase 2: 98 acres (40 ha)

Description of Mapped Type: This mapped type includes a variety of shrublands and open woodlands, and eastern redbud, winged elm, roughleaf dogwood, eastern redcedar, gum bumelia, post oak, and blackjack oak. Loblolly or shortleaf pine may also be present.

Where to Visit:

None



Pineywoods: Wet Hardwood Flatwoods

Area in Phase 2: 37,134 acres (15,028 ha)

Description of Mapped Type: Species such as willow oak, sweetgum, laurel oak, water oak, swamp chestnut oak, and overcup oak may be important in these seasonally or temporarily flooded wetlands. Loblolly pine or longleaf pine (south) may also be present. Locally, Chinese tallow may dominate some areas in the south, and dwarf palmetto may form a dense understory in some stands.

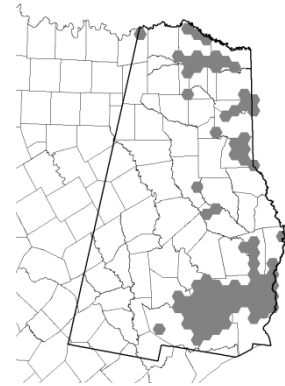
Where to Visit:

Angelina National Forest: USDA Forest Service

Big Thicket National Preserve: US National Park Service

Sheldon Lake State Park: Texas Parks and Wildlife Department

Wright Patman Lake: US Army Corps of Engineers



Post Oak Savanna: Live Oak Motte and Woodland

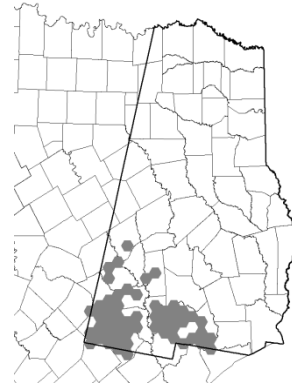
Area in Phase 2: 41,086 acres (16,628 ha)

Description of Mapped Type: Plateau live oak (west) or coastal live oak (east) is important in this mapped type, and eastern redcedar and loblolly pine (south) are common components. Post oak, cedar elm, and/or water oak are often in the canopy. Yaupon, American beautyberry, and gum bumelia are common in the understory.

Where to Visit:

Armand Bayou Nature Preserve: Committee to Preserve
Armand Bayou

Memorial Park: City of Houston



Post Oak Savanna: Oak / Hardwood Slope Forest

Area in Phase 2: 2,048 acres (829 ha)

Description of Mapped Type: A variety of oaks, including Shumard oak (north), post oak, and chinkapin oak, together with hardwoods such as cedar elm, American ash, southern red oak (east) and sugar hackberry may dominate this type. Common understory species may include yaupon, eastern redcedar, possumhaw and American beautyberry.

Where to Visit:

Fort Boggy State Park: Texas Parks and Wildlife Department

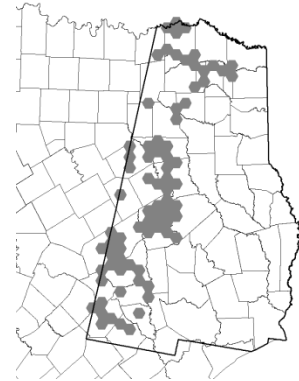
Fort Parker State Park: Texas Parks and Wildlife Department

Monument Hill Kreische Brewery State Historical Sites: Texas Parks and Wildlife Department

Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department

Purtis Creek State Park: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers



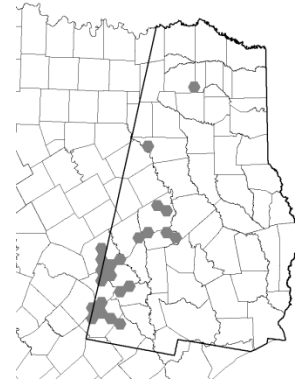
Post Oak Savanna: Oak / Redcedar Slope Forest

Area in Phase 2: 105 acres (42 ha)

Description of Mapped Type: Post oak and other oaks (blackjack, Shumard, chinkapin) share the overstory with eastern redcedar in this type. Common understory species include yaupon, farkleberry, possumhaw, and American beautyberry.

Where to Visit:

None



Post Oak Savanna: Post Oak / Redcedar Motte and Woodland

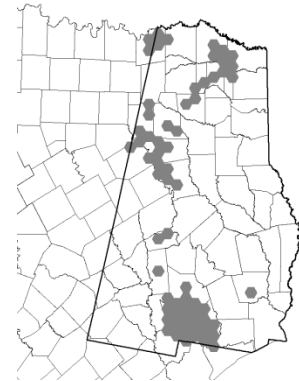
Area in Phase 2: 23,127 acres (9,359 ha)

Description of Mapped Type: This mixed forest contains post oak and eastern redcedar as canopy overstory trees in the north, whereas loblolly pine is a common component in the south. Blackjack oak, cedar elm, and water oak are common trees. Yaupon is a common shrub, especially in the south.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department



Post Oak Savanna: Post Oak / Yaupon Motte and Woodland

Area in Phase 2: 187,749 acres (75,982 ha)

Description of Mapped Type: Post oak and eastern redcedar are characteristic overstory trees in this type, and yaupon (sometimes dense) is a common understory shrub along with eastern redcedar. Blackjack oak and water oak are common elements, and plateau live oak may be important in the south.

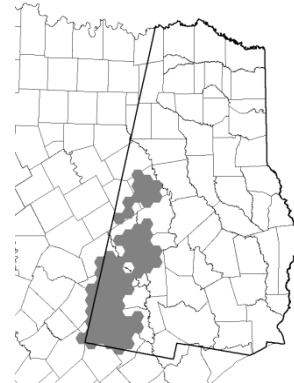
Where to Visit:

Fairfield Lake State Park: Texas Parks and Wildlife Department

Fort Parker State Park: Texas Parks and Wildlife Department

Normangee City Park: City of Normangee

Somerville Lake Recreation Area: US Army Corps of Engineers



Post Oak Savanna: Post Oak Motte and Woodland

Area in Phase 2: 2,546,399 acres (1,030,528 ha)

Description of Mapped Type: Post oak is the most frequent dominant tree species within this mapped type. Cedar elm, blackjack oak, sugar hackberry, water oak, southern red oak (east), black hickory, and plateau live oak may all be present in the overstory. Mesquite (west), common persimmon, yaupon, possumhaw, winged elm, gum bumelia, American beautyberry, and eastern redcedar are common shrubs.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

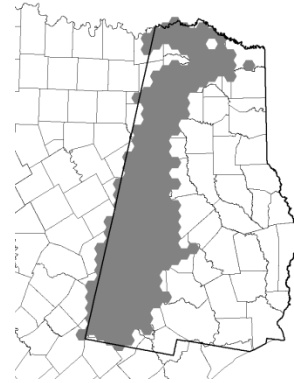
Fairfield Lake State Park: Texas Parks and Wildlife Department

Fort Boggy State Park: Texas Parks and Wildlife Department

Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department

Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers



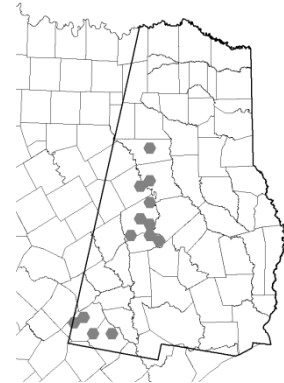
Post Oak Savanna: Redcedar Slope Forest

Area in Phase 2: 27 acres (11 ha)

Description of Mapped Type: Eastern redcedar shares dominance with oaks (post, blackjack, water) in this uncommon type, and loblolly pine is a common overstory tree in the south. Common understory species include farleberry, yaupon, and American beautyberry.

Where to Visit:

None



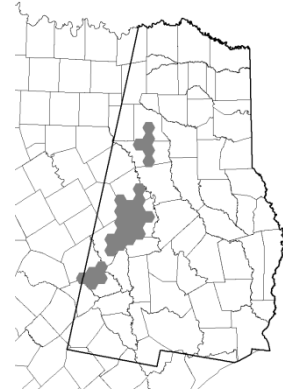
Post Oak Savanna: Sandylands Grassland

Area in Phase 2: 10,058 acres (4,070 ha)

Description of Mapped Type: Little bluestem is a common dominant of this type, together with a variety of grasses and forbs common on sands, including curly threeawn, bluntsepal Brazoria, Illinois flatsedge, Florida snake-cotton, purple sandgrass, and pinweed. Post oak, blackjack oak, bluejack oak, black hickory, and sand post oak may be present.

Where to Visit:

None



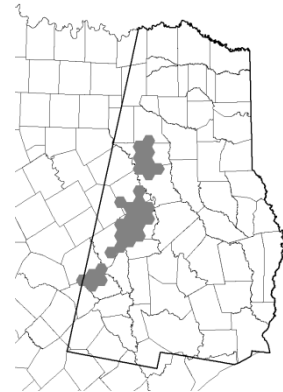
Post Oak Savanna: Sandylands Woodland and Shrubland

Area in Phase 2: 13,899 acres (5,625 ha)

Description of Mapped Type: Post oak, black hickory, blackjack oak, bluejack oak, sand post oak, and southern red oak (east) are common trees or shrubs in this type, and yaupon may be important. Eastern redcedar may be a component, and a variety of grasses and forbs may be present, including little bluestem, purple sandgrass, and Florida snake-cotton.

Where to Visit:

Normangee City Park: City of Normangee



Post Oak Savanna: Savanna Grassland

Area in Phase 2: 3,881,060 acres (1,570,665 ha)

Description of Mapped Type: A variety of grasslands are circumscribed within this type, and disturbance or tame grasses such as Bermudagrass and Bahia grass are common dominants. Little bluestem, Indiangrass, silver bluestem, Texas wintergrass, tall dropseed, and brownseed paspalum are native species that may be important. Common broomweed, western ragweed, and hog croton are common weedy herbaceous species. Post oak, blackjack oak, water oak, and yaupon are common woody species and may form sparse woodlands or shrublands in some areas.

Where to Visit:

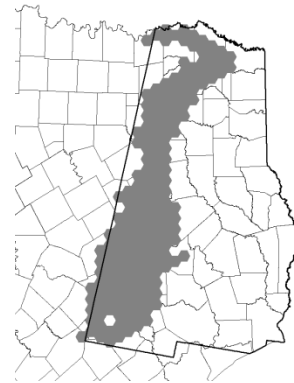
Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Gus Engeling Wildlife Management Area: Texas Parks and Wildlife Department

Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department

Purtis Creek State Park: Texas Parks and Wildlife Department

Somerville Lake Recreation Area: US Army Corps of Engineers



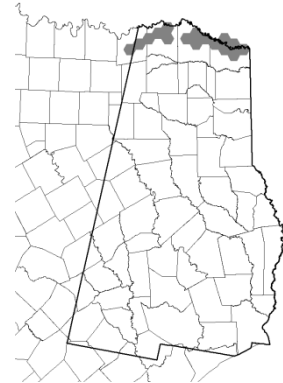
Red River: Floodplain Deciduous Shrubland

Area in Phase 2: 3,539 acres (1,432 ha)

Description of Mapped Type: Sparse cover of deciduous trees or shrubs characterize this mapped type, and species such as black willow, winged elm, gum bumelia, bois d'arc, possumhaw, green ash, boxelder, and sweetgum may be important.

Where to Visit:

None



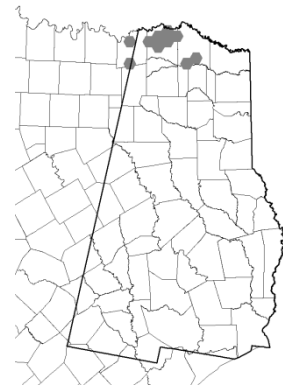
Red River: Floodplain Evergreen Shrubland

Area in Phase 2: 79 acres (32 ha)

Description of Mapped Type: Eastern redcedar is the primary dominant of this successional or disturbance mapped type. Species such as cedar elm, sugar hackberry, and gum bumelia may be present. Some eastern sites are dominated by young loblolly pine.

Where to Visit:

None



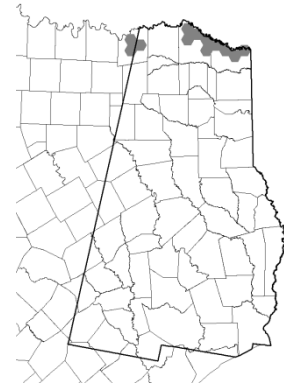
Red River: Floodplain Hardwood / Evergreen Forest

Area in Phase 2: 567 acres (229 ha)

Description of Mapped Type: Managed loblolly pine plantations characterize most areas within this mapped type. Boxelder, pecan, Shumard oak, American elm, water oak, southern red oak, eastern cottonwood, black willow, and green ash may be important deciduous trees. Eastern redcedar is the most important evergreen in the west, where pine is mainly absent.

Where to Visit:

None



Red River: Floodplain Hardwood Forest

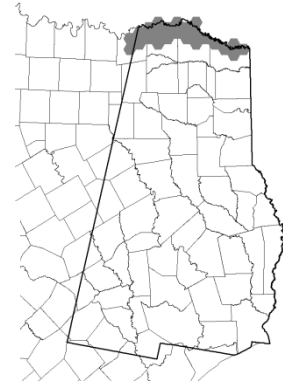
Area in Phase 2: 98,584 acres (39,897 ha)

Description of Mapped Type: Eastern cottonwood, black willow, boxelder, sycamore, pecan, Shumard oak, post oak, water oak, and cedar elm may be important in this floodplain and river front mapped type.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Lennox Woods Preserve: The Nature Conservancy



Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department

Red River: Floodplain Herbaceous Wetland

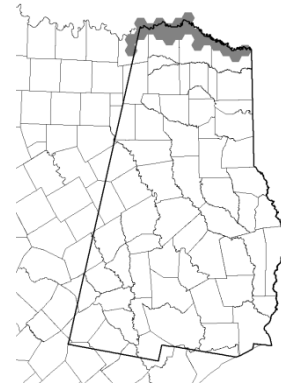
Area in Phase 2: 3,920 acres (1,586 ha)

Description of Mapped Type: A variety of herbaceous vegetation on floodplains occurs within this mapped type. Marshes with sedges, rushes, and other wetland species may dominate, and drier areas may support little bluestem, broomsedge bluestem, bushy bluestem, switchgrass, or introduced grasses such as Johnsongrass and Bermudagrass. Shrubs and small trees may include black willow, wax-myrtle, common buttonbush, and sweetgum.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department



Red River: Floodplain Seasonally Flooded Hardwood Forest

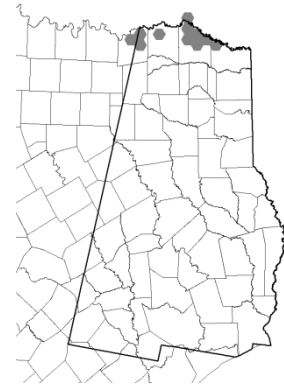
Area in Phase 2: 3,674 acres (1,487 ha)

Description of Mapped Type: This mapped type occurs in the wettest portions of the Red River floodplain, and may be dominated by species such as willow oak, overcup oak, and sweetgum in the east. Eastern cottonwood, boxelder, pecan, black willow, water oak, and cedar elm may be important throughout the range of this mapped type.

Where to Visit:

Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department

Lennox Woods Preserve: The Nature Conservancy



Pat Mayse Wildlife Management Area: Texas Parks and Wildlife Department

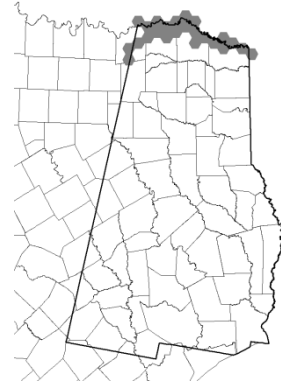
Red River: Floodplain Wet Prairie

Area in Phase 2: 99,493 acres (40,265 ha)

Description of Mapped Type: Introduced grasses such as Bermudagrass, and Johnsongrass may dominate many areas of this mapped type, and natives such as broomsedge bluestem, bushy bluestem, switchgrass, little bluestem, and Florida paspalum may be important in some areas. Common sparse woody cover may include black willow, wax-myrtle, bois d'arc, cedar elm, and common buttonbush.

Where to Visit:

Caddo National Grasslands Wildlife Management Area:
Texas Parks and Wildlife Department



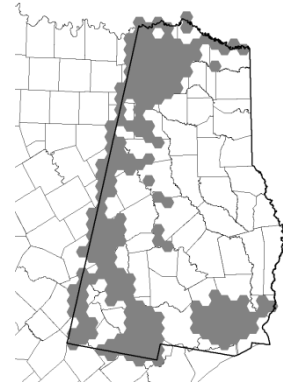
Row Crops

Area in Phase 2: 1,592,283 acres (644,397 ha)

Description of Mapped Type: This type includes all cropland where fields are fallow for some portion of the year. Some fields may rotate into and out of cultivation frequently, and year-round cover crops are generally mapped as grassland.

Where to Visit:

None



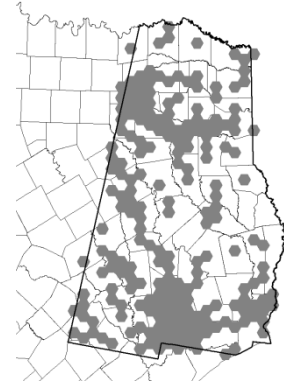
Urban High Intensity

Area in Phase 2: 400,706 acres (162,166 ha)

Description of Mapped Type: This type consists of built-up areas and wide transportation corridors that are dominated by impervious cover.

Where to Visit:

None



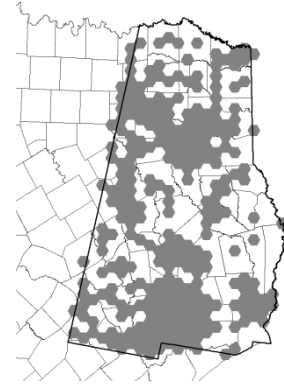
Urban Low Intensity

Area in Phase 2: 896,012 acres (362,616 ha)

Description of Mapped Type: This type includes areas that are built-up but not entirely covered by impervious cover, and includes most of the non-industrial areas within cities and towns

Where to Visit:

None



Contact Information

Numerous Texas Parks and Wildlife Department staff and partners have contributed to Phase 2 of the Texas Vegetation Classification project. Kim Ludeke, Duane German, Amie Treuer-Kuehn, Wendy Connally, Jackie Poole, and Jason Singhurst from Texas Parks and Wildlife are involved in an on-going basis. David Diamond, Lee Elliott, and Clayton Blodgett from the Missouri Resource Assessment Partnership, University of Missouri, are likewise involved on a continuing basis.